ENGINEERING NEWS-RECORD

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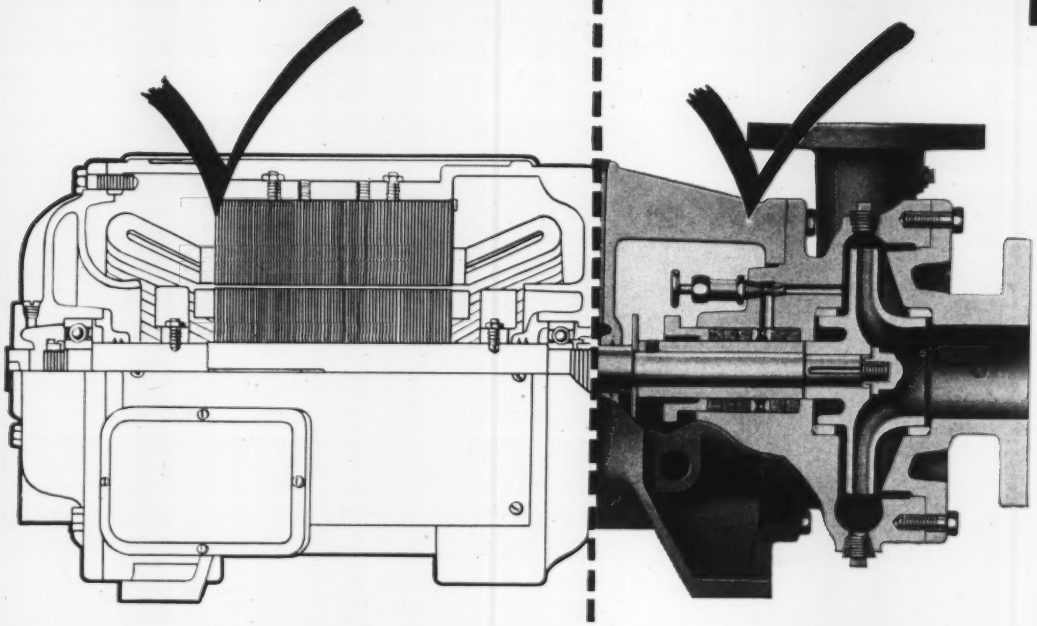
Motor *and* Pump



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There's no buck-passing. Allis-Chalmers backs every "Electrifugal" pump all the way — tests and checks the performance of each unit, at the factory.

FOR EVERY PUMPING NEED . . . CALL ON A-C

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News of the Week

ENGINEERING NEWS-RECORD • DECEMBER 19, 1946 • VOLUME 137 • NUMBER 25

Truman lifts most remaining building industry controls

Most of Wyatt program thrown out as ceilings on new housing, limitations on non-residential construction, veterans priorities for materials are removed

Following swiftly on the resignation of Wilson W. Wyatt as Housing Expediter and the removal of price controls on construction materials, President Truman Dec. 14 announced the almost complete removal of all remaining controls on the construction industry.

The President had previously announced a shakeup of the government's high command in the construction field that brought Frank Creedon to succeed Mr. Wyatt, and put Maj. Gen. Philip B. Fleming in overall charge of agencies controlling the industry. His control-removal announcement followed three days of conferences with the new group of men in key construction posts.

Citing increasing production of building materials as the underlying reason for the change, Mr. Truman said that henceforth the existing $10,000 ceiling on sales price of new housing is removed; anyone—veteran or non-veteran—may build a home for personal occupancy; all priorities for scarce materials are scrapped; the flat $80 per month rental ceiling will be relaxed, and the current $35,000,000 a week limit on non-residential construction—enforced by the Civilian Production Administration—is no longer in effect.

Promising a "vigorous program" to continue aid to veterans seeking housing, the Chief Executive said that housing construction will be authorized by government permits that embody the following restrictions:

Housing permits

The dwellings must be suitable for year-round occupancy; total floor area will be restricted (not specified); and for rental housing, maximum rents, exclusive of service charges, must not exceed an average of $80 per unit. "The permit system will be simple," Mr. Truman commented. It will not be necessary to have sales prices set, or to meet standards and inspection requirements of the present priorities system.

As for housing itself, it appears most likely that, based upon Creedon's vigorous opposition in the past to the Wyatt program, the new housing expediter's philosophy will be to give the home builders their "head" for the most part—with government controls geared to helping the builders where they want it. This would mean junking the type of controls to force the housing program into a sub-$10,000 pattern.

One substitute idea which is getting at least mild consideration is for government to undertake a relatively large-scale apartment construction program of rental units for veterans, to supplement privately-financed home building during the current period of acute shortage of dwelling units.

Creedon comes to the housing job from his position as deputy administrator in charge of construction at the Civilian Production Administration, one of the war agencies abolished in Truman's shakeup of governmental emergency agencies to speed liquidation of wartime controls. He was appointed only Housing Expediter and the post of Administrator of the National Housing Agency, a wartime holding company agency for the government's old-line housing activities, went to Raymond M. Foley who had been head of the Federal Housing Administration, chief of the units in NHA. Wyatt had held both titles and the separation of these jobs in the reorganization is interpreted as further underscoring the trend toward "decontrolling" housing. All the emergency powers of the Patman Act are vested in the expediter; NHA is a mortgage and building agency.

A construction engineer

Creedon, at 50, has had a long and successful record as construction engineer in large-scale industrial building, much of it for the government. He worked for various private concerns from the end of the first war until 1934, when he came to government in

(*Continued on page* 3)

Wide-World Photo

***New Command**—Heads of four new government agencies, appointed last week to liquidate remaining government wartime controls, discuss their problems at Washington. Left to right are: Frank P. Creedon, new housing expediter; John R. Steelman, now assistant to the President for coordination of agencies and policies; Maj. Gen. Philip B. Fleming, chief of the new Office of Temporary Controls, and Raymond M. Foley, newly-appointed head of the National Housing Administration.*

NEWS IN BRIEF

In telegraphic form, here are latest news developments on the engineering and construction front during the week.

Construction — Kenyon College, located at *Gambier, Ohio,* will erect a $350,000 library. . . . Brice Building Co. Inc., of Birmingham, Ala., has a contract to build a $887,000 diesel locomotive repair and maintenance shop at *Chattanooga, Tenn.,* for the Southern Railway. . . . The Alabama Power Co. is planning a $10,000,000 steam plant at *Gadsden, Ala.* . . . The *North Carolina* State Board of Education will establish a $25,000,000 fund to assist counties by grants-in-aid in constructing school buildings during the next 5 years. . . . Charles E. Oelschlager, *Philadelphia, Pa.* architect is taking bids by separate contracts for a $6,500,000 terminal to be built by the Philadelphia Wholesale Produce Corp. . . . The University of Illinois, *Chicago* will erect a 13-story addition at its medical college. . . . Shell Oil Co. will build a $10,000,000 lubricating oil plant on the ship channel at *Houston, Tex.* . . . *Seattle, Wash.,* will sell $6,500,000 revenue bonds to complete the second step of Ross Dam construction. . . . Winn-Sinter Construction Co. is erecting a $1,250,000 plant at *Eldorado, Ark.,* for the Lion Oil Co. . . . Standard Oil Co. of Indiana is expanding its facilities on a 90-acre area at Sugar Creek near *Kansas City, Mo.* . . . Bristol Laboratories, Inc., has given the H. K. Ferguson Co. contracts for the design and construction of another new building at *Syracuse, N. Y.,* to cost over $2,000,000. . . . Food Fair, Inc., has plans for a $1,500,000 packing plant at *Omaha, Neb.* . . . *Trenton, N. J.,* board of education, will build a $1,000,000 vocational school building. . . . *Philadelphia, Pa.,* has selected architects for a high school in South Philadelphia to cost $4,000,000. . . . Mahony-Troart Construction Co. has the general contract for a $1,000,000 building for the N. J. Bell Telephone Co. at *Camden, N. J.* . . . Walter Kidde Constructors is erecting several buildings at *Trenton, N. J.,* for the Sloane-Blaton Corp. at a cost of $1,373,000. . . . Dill and Collins, *Philadelphia, Pa.,* have completed preliminary surveys for a $5,000,000 paper manufacturing plant. . . . Trinity College, *Hartford, Conn.* has a $4,000,000 building program under consideration. . . . Building plans at *Philadelphia, Pa.,* include $6,000,000, Philadelphia General Hospital; $29,000,000 Philadelphia State Hospital (tentative); and $8,000,000, Temple University.

Highways—Bids for the 4-lane parkway to connect with the *Pittsburgh, Pa.* airport will be advertised about Jan. 1. . . . The Illinois State Division of Highways plans the construction of an expressway around *Champaign* and *Urbana.* . . . N. C. State Highway & Public Works Commission has let $27,760,909 worth of work since July 1, 1945, for 2,112 miles of road. . . . A toll bridge at *Strathmore, N. J.,* will cost $1,000,000, work to start next spring. . . . Work is to be started soon on a 4-lane highway approach to *Tampa, Fla.* . . . *Houston, Tex.,* has authorized a $7,906,440 street paving program and $1,750,000 for railroad grade separation. . . . The eastbound lanes of the Lincoln Highway between East McKeesport and Westinghouse Bridge were opened Nov. 30.

Housing—Benny Cassalia, *Philadelphia, Pa.,* will award separate contracts on a $2,000,000 residential development for which plans are completed; Fairlamb Construction Corp., $5,000,000; and Turner Construction Co., a $4,000,000 apartment group development at School House Lane and Wissahickon Ave., for a corporation headed by Mayer I. Blum. . . . Other housing developments include: *Bellaire, Tex.,* $1,250,000. . . . *Roseburg and Lebanon, Ore.,* $1,130,000. . . . *Mays Landing, N. J.,* $1,000,000, *New Brunswick, N. J.,* veterans, $1,400,000. . . . *Cookstown, N. J.* $1,000,000.

Sewers and Water Supply—*Pittston, Pa.,* will build a $900,000 disposal plant. . . . *Bryan, Tex.,* $3,000,000. *Lawrenceville, Ga.,* $100,000 expansion of water and sewer systems. . . . *Raleigh, N. C.,* is planning treatment plants and sanitary sewer outfall to cost $2,063,000. . . . *Houston, Tex.,* has announced plans for sewer projects totalling $388,319. . . . *Columbia, Tenn.,* disposal plant and sewerage extension, $1,100,000, planned. . . . A survey is being made at *Lebanon, Ind.,* to determine possible improvements to its water facilities. . . . *Penticton, B. C.,* has awarded a contract at $314,670 for a new sewerage system. . . . *Seymour, Ind.* will spend more than $100,000 to improve its water supply system.

Deer Creek project work approved by Utah voters

In a Dec. 4 election Utah voters approved by a ratio of 53 to 1 the continued financing of the 41-mile Deer Creek-Salt Lake aqueduct project.

Ballot approval was asked for further loans from the federal government to complete the irrigation project. Plans call for additional financing on a non-interest basis of $4,260,650, to be repaid within 40 years.

E. O. Larsen, director of the Bureau of Reclamation's Region II, reported that contracts will be completed immediately for completion of the Duchesne Tunnel, 13 remaining miles of aqueduct and the enlargement of the Deer Creek project.

The aqueduct is a feature of the Provo River Project being constructed by the bureau. It will carry water stored in Deer Creek Reservoir in Provo Canyon to Salt Lake City, to meet expanding population.

Water service expansion planned at Chattanooga

The City Water Co. at Chattanooga, Tenn., is completing the first step in a $650,000 improvement and expansion program that will be carried out through 1947 as rapidly as materials now on order are received, states A. F. Porzelius, manager.

The first phase of the program consists of the construction of a new 30-in. low service line from the company's pumping station to the filter plant preparatory to installation of a new pump having a capacity of 15,000,000 gallons a day, the manager said.

With $100,000 represented in the pump and low service line, other items set up in the improvement program for next year are a new high service line from the pumping station to tie into the system at Missionary Ridge to cost $300,000 and, improvements and extensions for the section north of the Tennessee River to cost $50,000.

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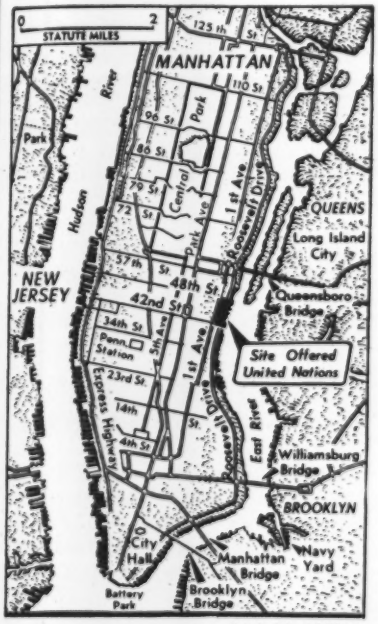
United Nations select New York City for skyscraper world capital center

General Assembly accepts $8,500,000 Rockefeller gift of 6-block site in Manhattan—To prepare construction cost estimate

Acting to beat a one month deadline set by the donor, the United Nations committee seeking a headquarters for the world organization last week approved a 17-acre tract on New York City's East Side as a site for a multi-million dollar "vertical" capital. The General Assembly approved the choice.

The action climaxed more than a year of searching for a site, and resulted from a sudden offer, made public only a few days before, by John D. Rockefeller, Jr., of the $8,500,000 6-block site which is now occupied by tenements, lofts and other miscellanous structures.



Wide-World Photo

***Site for World Capital**—A United Nations committee on selection of a site for headquarters of the organization has approved the 17-acre site shown in black above, on New York City's East Side. UN plans a "vertical" world capital.*

City approves despite cost

Mr. Rockefeller's offer was conditioned on acceptance by UN within one month, and the agreement by the City of New York to purchase for transfer to UN several small parcels of land in the area not included under options held by the financier, and the further agreement that the city would renounce realty taxes on the area but continue to provide essential services to it.

The site was originally assembled as the location for a large-scale business building development paralleling the existing "Rockefeller Center" in mid-town Manhattan. Despite the fact that the city might lose the $3,000,000 in estimated yearly real estate taxes that such a development would produce, and obligate itself for the additional expenditures of about $2,000,000 for extra land and about $300,000 per year for fire, police, water, sewer and other services, the Board of Estimate agreed to the conditions almost immediately.

Skyscraper-type buildings

Acceptance of the site indicates a complete change from earlier plans for an expansive, stately world capital (while the UN committee was studying large tracts in Westchester County, N. Y., Flushing Meadows, N. Y., Philadelphia, San Francisco and other locations) to a skyscraper-type capital which engineers have urged as the most efficient for an organization as large as the United Nations eventually will be.

The area selected (see accompanying map) is easily accessible by the city's underground rapid transit routes and by surface transportation lines, is traversed by the East River Drive, and would have dock frontage on the East River.

The committee instructed the UN secretary-general to prepare a full report for submission to the General Assembly in September, 1947, which would include engineering plans and estimates of the cost of constructing a skyscraper capital. City officials assured the organization that present zoning laws in the area would permit this type of construction, and added that changes in the laws would be forthcoming to make other construction in the area conform.

Lift remaining construction controls

(Continued from first page)

the Public Works Administration. At the outset of the national defense program in 1940 Creedon became chief construction engineer for the Corps of Engineers, U. S. Army, and handled construction of all ordnance and chemical warfare manufacturing plants.

He was deputy director of the War Production Board's rubber division in 1943-44, in charge of construction of the huge government synthetic rubber plants, and then became associated with Stone and Webster as vice-president and general manager in charge of construction of the government's vast atomic bomb plant at Oak Ridge, Tenn.

Appointment of Creedon and Foley to the housing jobs was made by the President simultaneously with establishment of a new "liquidating" agency—called the Office of Temporary Controls—to take over the remaining functions of CPA, Office of Price Administration, Office of War Mobilization and Reconversion and Office of Economic Stabilization. Heading this new agency is Maj. Gen. Philip B. Fleming, Federal Works Administrator.

New overall agency

OTC's major activities will be administration of rent controls and sugar rationing administered by OPA, and priorities and allocations powers, including those over building materials, inherited from CPA, plus a number of miscellaneous reconversion programs. General Fleming thus assumes the residual authority of John D. Small, who quit last week as CPA head; Paul Porter, who likewise had left OPA; John R. Steelman, head of OWMR; and Chester Bowles, whose place at OEC had not been filled since his departure. Steelman, only one of the four still in office when Truman merged the agencies, was shifted to "Assistant to the President," and will thus remain on the White House staff.

Truman's executive order also abolishes the Wage Stabilization Board, as of next Feb. 24. Acting chairman Phillips L. Garman of WSB said his agency intended to adhere to its already fixed schedule of winding up all work at its regional offices by Jan. 15. Thereafter, appeals from regional decisions will be handled by the National Board until Feb. 24. About all the work left to the board are enforcement cases involving alleged violation of wage stabilization controls in building construction which occurred before controls were lifted Nov. 9. Any such cases still unsettled by Feb. 24 will be turned over to the Internal Revenue Bureau—penalty in these cases is disallowance of the overpayment in employers' income tax computations.

WSB's only other function was transferred to the Labor Department. The agency is charged with making any wage and working conditions changes in government-seized plants; only the soft coal mines and the Great Lakes Towing Co. remain in federal hands.

DEVELOPMENTS BEYOND U. S. BORDERS

Digested from reports by Engineering News-Record correspondents and the McGraw-Hill World News Bureau

Build precast concrete deep-water pier for Trondheim, Norway—New Zealand completing major hydro-electric work—Consider valley authority for Egypt's Nile

Norway—A deep-water pier being constructed for the Norwegian Marine Department as a step in repairing war damage to the harbor of the City of Trondheim, finds engineers utilizing a submarine boat station, built during the German occupation, as a drydock for casting needed concrete cribs.

The pier requires 36 precast cribs, each weighing 600 metric tons and measuring 53 ft. long by 23 ft. wide by 32 ft. high. The supervising engineer, Knute G. Rockne (a cousin of the famed Notre Dame football coach) took over the German installation as site for the new work. The station consists of five drydocks for taking in submarines under water, and has a concrete roof 20 ft. thick, reinforced with closely-spaced steel trusses.

A report from Rockne states that cement is scarce and that form lumber is hard to get even at what the Norwegians consider a high price of $60 per M for lumber of poor quality. Reinforcing steel, however, is plentiful, with a stock of 3,000 to 4,000 tons stored at the site by the Germans in obvious preparation for additional construction.

The wage rate for common labor is about 36c an hour, for an 8-hr. shift, with 25 percent additional for the first 2 hr. of overtime and 40 percent for additional overtime hours.

Rockne, who is a direct representative of the Macdonald Engineering Co., Chicago, is using the Macdonald system of slip forms, well known throughout Europe, to build four cribs at a time in the drydock. Probably because of the lumber shortage, only two sets of forms are being employed, instead of the four originally planned.

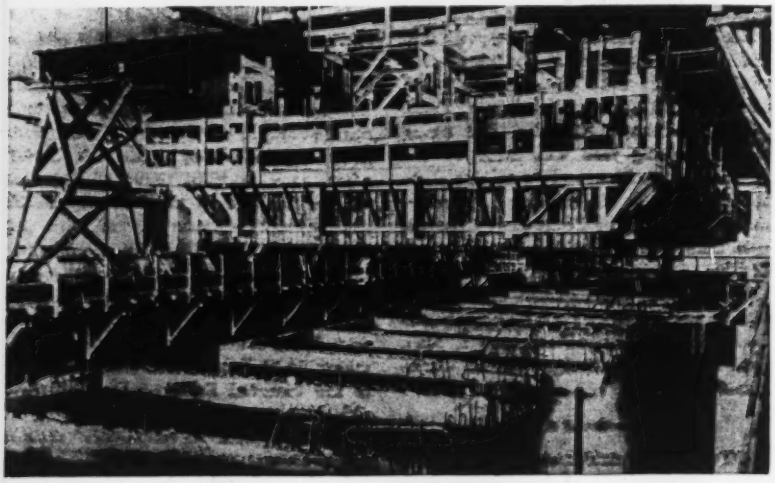
Traveling scaffolds (shown in the accompanying photograph) are used to move a set of forms, weighing 18 tons, and to lower them by winches at the next location. Two 8-hr. shifts are required for moving a set of forms with a traveling scaffold and lowering the forms by winch braking in the new position. After completing a crib, the forms are raised on jack rods to desired elevation for hanging from the scaffold beams.

Rockne's construction force started the first forms in July. By the middle of September, the contract was well underway. The construction schedule for precasting four cribs in the dock is this: First week, build foundations and set forms; second week, pull four sets of walls 32 ft. high; third week, flood drydock and float out cribs after 7 days' hardening. Pumping capacity is adequate to unwater the drydock in 4 to 5 hr. It is expected that 28 cribs will be completed by the first of the year. The influence of the Gulf Stream gives Trondheim a moderate climate throughout the year.

Average progress in concreting the walls is a 12-ft. vertical rise in 24 hr. The concrete is a rich mix of 1:1.5:2.3 proportions. Four caissons require 10,000 sacks of cement.

Each crib is made up of five compartments. The entire assembly of exterior walls and inner diaphragms is built monolithically by continuous placement of concrete in the slip forms on top of the caisson foundation slab. Outer walls are 10 in. thick; inner walls, 8 in.

For 12 years before going to Europe, Rockne was chief engineer of the Macdonald Engineering Co. in the firm's Chicago office.



***Precast Concrete For Norwegian Pier**—Precast concrete caissons, ready to be floated out of the submarine drydock and towed to place for a deep-water pier in Trondheim Harbor, Norway, are constructed with slip forms, here suspended from traveling scaffold while awaiting re-use on next group of concrete cribs. Two sets of forms are used in building four cribs at a time.*

Power . . . .

New Zealand — Now nearing completion on New Zealand's North Island is a huge hydro-electric project on the Waikato River, near the village of Karapiro, that will materially add to the power potential of the island.

According to an article by R. L. James in a recent issue of the *Contractors Record and Municipal Engineering*, the project includes a concrete arch dam 1,120 ft. long and 120 ft. high, a power plant that will contain three 30,000 kw. units, and a diversion tunnel 26 ft. in diameter.

Construction was started before the last war, and carried on at reduced scale during war years, despite shortages of labor and materials. First power unit is expected to go into service early next year.

The dam itself is 57 ft. wide at the base, and includes a central arch section 575 ft. long, poured in blocks with about 4 ft. of spacing between the columns to prevent shrinkage and expansion cracks. Work crews are now engaged in filling in these spaces. All concrete was vibrated. Excepting for gates, spillways located to the east of the main arch are completed, as are three concrete siphons designed to discharge 1,000 cfs.

The powerhouse is of modern design,

357 ft. long, 150 ft. wide, 60 ft. high and faced with buff-colored cement.

When closed, the dam will back up a lake 14 miles long, which will drown out a smaller existing power station further upstream. It has been proposed that the lake be utilized for recreational purposes.

Egypt — A proposal looking towards the formation of a central valley authority for the Nile Valley has been advanced by A. Daninos, Egyptian consulting engineer, who is now in the United States as a part of a tour designed to interest government officials of other nations in the scheme.

Although such an authority, according to Mr. Daninos, would include under its supervision the proposed raising of Aswan Dam and installation of power facilities there (*ENR* Aug. 15, vol.p. 202) it is apparently not yet officially sanctioned by the Egyptian Government.

However, the engineer said, visits to London and to centers in France, Italy, Switzerland, Sweden, Belgium and the United States have elicited encouragement toward the formation of a TVA-like league for the protection of the Nile Valley, the formation of a board of river control experts to submit projects and plans to the league for approval, and the formation of a company to provide financial backing for approved work.

Detailing his plans, Mr. Daninos pointed out that because Egypt's economic welfare is so closely tied to the Nile and its development, the river might be considered as an international stream. Therefore, he contended, governments other than that of Egypt should be concerned in the project.

England — Great Britain is reported to be studying the "importation" of electric power from Norway by means of 300 miles of submarine cables, which would connect with overland lines through Scotland. Norway, with only about 16 percent of its potential power resources tapped, would have a large power surplus for "export", engineers said, and the power from that country would aid in conserving dwindling British coal supplies.

Water Supply . . . .

Australia — The Metropolitan Water Board of Sydney announced recently it had started work on what it called the largest concrete dam in the Southern Hemisphere — in the Warragamba Gorge, about 70 miles from the New South Wales capital.

The 400-ft. high sandstone cliffs of the gorge will form the sides of the reservoir, which will be a lake 30 miles long, flooding the entire Burragorang Valley and some parts of the valleys of tributary streams. The contemplated dam will be 380 ft. high above water level.

Although the gorge has always been considered well-nigh impassable, the dam is not a new idea. It was first proposed in 1845, and the proposal was later strengthened by an engineering report filed in 1869.

Preliminary work, including exploratory rock drilling, has been completed, and work has started on construction of two cofferdams above and below the dam site. In addition to construction of the dam itself, it is planned to construct a scenic road to skirt the reservoir shoreline.

Housing . . . .

India — A 10-year housing program that would cost about $80,000,000 and provide some 50,000 new homes is being considered by the Madras Municipal Corporation. Not a slum clearance program, the scheme calls for construction of 30,000 houses for lower middle-class families, each costing $1,200; 10,000 homes to cost $2,250, and 10,000 to cost $4,200.

Mexico — Aiding Mexico's large "middle class"—families of up to five persons that count themselves lucky to have a monthly income of $125 — to build their own homes, is the object of Mexico's first building loan bank, the Banco Immobilario, S. A. which has just started business in Mexico City. The bank, which makes loans on long terms at low interest rates, was inaugurated with a ceremony recently.

England — British industry recently produced the 10,000th aluminum house to aid in meeting the country's acute housing shortage, according to the Ministry of Supply.

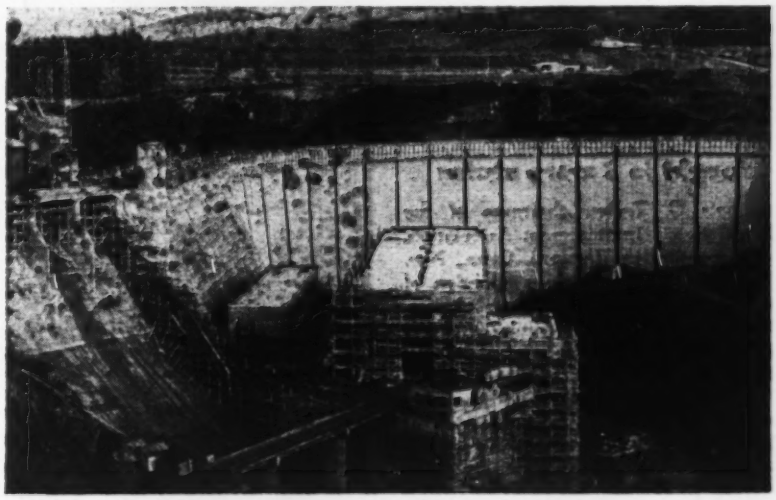
Miscellany . . . .

Brazil — Initial plans for a city that is to replace Rio De Janeiro as capital of Brazil have been completed by a commission charged with planning the capital's transfer to the interior.

Rio, capital since 1762, is to be replaced by a new city to be built on the plateau of Formosa, roughly 300 miles northwest of the present capital. Initial plans call for a city of 100,000 persons, laid out with Washington, D. C., as a model.

China—The Yellow River gap at Huayuanko—on which American and Chinese engineers have been working for the last year (*ENR* Oct. 31, vol. p. 572) has now been narrowed to about 200 yards, and, barring further delays, engineers expect to close it completely about Jan. 1.

Closing of the gap in the dikes—blasted by Chinese Government engineers in 1938 to halt Japanese Army advances in the region—is expected to bring into production many acres of now-flooded farmlands.



***Power For New Zealand**—Now nearing completion on the Waikato River in New Zealand is this 1,120-ft. long, 110-ft. high concrete arch dam and its attendant power station, which will form an integral part of the islands' power supply system. A 14-mi. lake will be formed by the dam, and will serve as a recreation center for the area.*

Study $36 million parking scheme for Pittsburgh, Pa.

Organization of a $36,000,000 Municipal Parking Authority for construction of publicly-owned garages and parking spaces to help solve Pittsburgh's growing downtown traffic problem was proposed recently by the city's Regional Planning Association.

Similar in plan to proposals recently advanced in New York City (*ENR* Nov. 21, vol. p. 690) the scheme proposes the erection of some 20 new parking garages, some of them to be five stories in height, and the acquisition of portions of privately-owned parking garages and lots in the business district. The new structures and lots would provide space for a total of 25,819 cars daily, planners said.

Under a plan to be submitted to city officials shortly, the proposed parking authority would be granted the right of eminent domain to acquire needed lands, and would finance its operations by bond issues based on expected revenues from the new facilities. Initial work would include construction of five garages—of some 20 to be built eventually—and acquisition of seven existing garages and four lots. The facilities would be divided among "long-time" parking for persons wishing to park for a day or more, and "short-time" services for shoppers and businessmen.

Charges on the "long-time" basis would be fixed at 35 cents per day, while "short-time" rates would be 15 cents for the first hour, 10 cents for second and third hours, and 25 cents per hour for each succeeding hour to discourage overtime parking.

Road fund diversion fought in 3 more states

Louis G. Tolles, chairman of the Rural Roads Improvement Association, at a meeting in Hartford, Conn., Nov. 15 backed the unanimous adoption of a resolution urging the General Assembly to pass a law protecting highway funds. Mr. Tolles declared plans will immediately be made to present a bill to the 1947 State General Assembly which would prevent the diversion of highway funds for non-highway use.

Arkansas objections

Proposal for a constitutional amendment preventing diversion of highway-user revenues will be submitted to the 1947 General Assembly by the Independent Oil Marketeers of Arkansas, it was decided at the marketers' recent convention, meeting at Little Rock.

Adoption of the resolution that "All special automotive taxes should be spent exclusively for purposes of construction, maintenance and administration of public roads and highways and for the retirement of highway obligations," was passed unanimously.

North Carolina has a plan

Maintaining that city streets should get about 40 per cent of all the money the highway department collects, the North Carolina League of Municipalities is pushing a campaign to obtain one cent of the 6-cent state gasoline tax for use by the municipalities on street programs.

The league has just held regional meetings at Greensboro, Waynesville, Hickory, Charlotte, Edenton, New Bern, Wilmington, Fayetteville and Rocky Mount to push a legislative program to be submitted to the North Carolina Legislature in January.

The group seeks to have one cent of the gasoline tax turned over to the municipalities in lieu of the present million dollar annual allocation which is supervised by the highway department. Under such a plan, the municipalities would receive a greater share of the highway revenues for street improvement purposes.

Propose $3 million road program for Delaware

A $3,430,000 new construction program, involving some 99 miles of highway and one bridge was recommended for Delaware for the 1947 period last week in an annual report issued by W. W. Mack, retiring chief engineer of the Delaware State Highway Department.

Most of the projects call for hard-surfacing state highways, and a majority of the work will be concentrated in New Castle County.

Group pushes plans for Mississippi scenic road

The Mississippi River Scenic Highway Association, meeting at Cairo, Ill., Nov. 21, decided to extend its organization to press for congressional action on a proposed 2,500-mile parkway extending from the Canadian border to the Gulf of Mexico.

Officers of the association voted to organize units in each county bordering on the Mississippi to stimulate interest in the plan for a national park in the midwest bordering the route of the proposed highway.

***Floor First**—An unusual switch in building technique is used in the construction of the main assembly building in a new plant for the Ford Motor Co., now under way at Hapeville, Ga. The floor was completely poured before steel erection was started, with considerable advantage to speed of construction, Ford engineers said. Anticipated damage by dropping of beams, etc., did not materialize. Plant will be combination assembly plant and showroom, 1,040 ft. long and 470 ft. wide, with one-story steel frames faced with brick and limestone. An office building will adjoin the main plant. The Thompson-Street Co., Charlotte, N. C., holds general contract.*

Big road backlog in 11 western states as 1947 budgets are prepared

Very large programs are planned for California and Colorado, while much work is already under way in other states

With 1947 budgets being figured in the 11 Western states, highway departments are lining up facts and figures on their backlog of road construction for presentation to holders of state pursestrings, meanwhile accelerating construction work on projects already financed.

The California highway commission has budgeted $44,497,000 for the fiscal year 1947-48 to finance highway and bridge construction projects. Nearly $23,000,000 of the amount was allocated for major construction in the state's $155,000,000 postwar highway building program, the rest going for maintenance, gas tax apportionments to cities and rights of way.

Two states face deficit financing for needed road building. The Oregon commission has accepted a $6,000,000 deficit in its $31,655,000 budget for 1947, planning to make up the difference from $17,000,000 saved when the war called a halt to major construction. Colorado is considering a three-year program calling for a $60,000,000 expenditure although highway revenue in the period will amount to only about half that much.

California figures

California's highway budget this year is its first annual budget, a change from the biennial plan being approved in a constitutional amendment submitted to the voters in the Nov. 5 election.

The $23,000,000 share of the year's funds to go for major construction was raised from previous plans, which had allowed $36,549,000 for a two-year period. Estimates of total highway revenue were hiked to $69,769,000, compared with an income of $127,000,000 originally submitted for the biennium.

Among items in the budget are $6,000,000 for rights of way, the bulk of right of way for next year's projects already having been acquired; reconditioning of present highways, $4,000,000; gas tax apportionments, $6,200,000; San Francisco-Oakland bay bridge costs, $1,150,000, and preliminary engineering, $1,800,000.

Primary highways in the north section of the state will receive $13,377,562 and in the south $13,082, 338. Secondary highways in northern California will get $9,807,600 and southern California, $8,229,500.

The Oregon budget plans on net receipts of $18,254,000 and $7,200,000 in federal funds. Capital expenditures for road building and other highway construction will reach $20,660,000; maintenance, $7,200,000 and operation and administration $2,417,000.

The $60,000,000 program presented to the Colorado highway advisory board by Highway Engineer Mark U. Watrous offered, he said, a real picture of the highway needs of the state. While admitting that highway revenue would pay for only half of the program, he said that a possible increase of two cents a gallon in the gasoline tax could add $10,000,000 to available funds.

Montana and Arizona

In Montana, some $10,000,000 of road construction is now under contract and $6,300,000 under construction in a $46,000,000 program. In Arizona, a $6,00,000 program is expected to reach bidding by Jan. 1.

A road sought by Phoenix and Kingman, Ariz., residents for some 15 years, the Wickenburg-Kingman cutoff, was formally approved by the Arizona highway commission for inclusion in the state system in its recent announcement of a go-ahead in highway construction.

A $350,000 allotment was made for initial developments on the route, which eventually will cut nearly 100 miles from the present Phoenix-Kingman road.

A $1,500,000 highway for Utah

In Utah, the first construction on a highway paralleling the Mormon Pioneer trail from Henefer to Salt Lake City that may cost $1,500,000 has been ordered by Ray H. Leavitt, Utah road commission chairman.

Present specifications call for construction of a 2-lane, gravel-surfaced scenic road to cost an estimated $600,000. However, Leavitt pointed out that bringing the road up to federal specifications so that federal matching money may be used will probably increase the cost of the road.

The first section of the 30-mile stretch to be completed will be 4.5 miles from the end of Emigration Canyon highway to within one mile of Big Mountain summit.

W. A. McWilliams heads Delaware highway bureau

William A. McWilliams, of Dover, has been chosen chief engineer of the Delaware Highway Department to succeed W. W. Mack. The latter,. who has been with the department for 29 years, serving the past 18 years as chief engineer, will be retained as special consultant. Both appointments are effective Jan. 1.

W. A. McWilliams

Mr. McWilliams, a veteran of both world wars and a colonel in the first one, has been with the department for 19 years. He has served as resident engineer of Kent County, superintendent of State Police, and since his discharge from the armed forces in Dec., 1945, he has been assistant chief engineer in charge of construction and maintenance.

W. B. McKendrick, Jr., was reelected as an assistant chief engineer.

During the 18 years Mr. Mack has been chief engineer, the Highway Department has constructed all of the existing dual highways in the state and many of the bridges.

Baltimore balks at plan to build freeway link

Baltimore, Md., city councilmen, after a tumultuous session in which affected property owners registered their dislike for the plan, last week voted down a proposal that the city build a connection to a state superhighway from the city line to the downtown section.

The connection, which would have been built from the southwest city limits to the downtown business section as a link to a parkway now under construction from Washington, D. C., northward, was planned as a freeway. Residents of areas on the proposed route based their objections on the ground that construction of the road would destroy large areas of existing housing, and business interests said it would cut the district in two and channel traffic away from it.

Construction of the new road has caused discussion in the city ever since it was first proposed late in 1944 (*ENR* Oct. 19, 1944, vol. p. 467). At that time, a report prepared by a group of consultants headed by Robert Moses, New York City parks commissioner, suggested that a freeway providing six lanes of traffic should be built at a cost of $40,000,000. This plan was later revised as to the suggested location of the road.

$17 million road program taps new forest areas

Heavy construction equipment must battle rugged terrain to open up new areas for logging operations in the national forests. The top photo shows a tractor and grader breaking trail in the Flathead National Forest in Montana. Center, a bulldozer levels a rough trail in the Coeur d'Alene forest in Idaho. Bottom, to provide gravel for surfacing a 13.5-mi. road section in the Flathead Forest, a portable rock-crushing plant is set up among the trees on the job. The operations are typical of many of the road projects now under way in an attempt to ease the current national lumber shortage by making vast timber stands in national forests easily accessible to lumbering operations.

New arteries planned to make government-held timberlands available for logging to aid nation's shortage of lumber products

The U. S. Forest Service and the National Housing Agency are making rapid strides in a $17,000,000 construction program that will provide new forest roads from established highways to remote mountain timber areas never before accessible to logging interests.

The program is a part of general plans announced late last summer (*ENR* Sept. 26, vol. p. 410) expected to increase appreciably the flow of lumber to veterans' and other housing projects, and for the construction industry in general.

In addition to the $17,000,000 available to the Forest Service for its use, some $1,250,000 is allotted to the Office of Indian Affairs for reconditioning or construction of access roads on Indian reservations where large stands of hitherto inaccessible timber would be available.

Under a Forest Service plan calling for construction of more than 2,300 miles of new or improved roads in national forests by the end of June, 1947, work is already underway in 31 states. As of Nov. 1 the job was about 35 percent complete, and projects totaling 1,775 miles were under way.

The new roads are expected to increase the timber output from the national forests by 240,000,000 b. ft. this year and by more than a billion feet during the year 1947.

Tough construction job

Construction of the access roads is a tough job.

Often the right-of-way must snake its course up steep, rocky canyons, hug tortuous mountain streams or curve and twist along mountainsides. Much of the way must be blasted through primeval rock.

To do the job about 2,000 men, many of them former servicemen, with heavy equipment—bulldozers, trucks, tractors, graders, scrapers and rock-crushing plants—are employed. The roads are planned and surveyed by engineers of the Forest Service and the Public Roads Administration, the latter agency also supervising the construction on some jobs. About 60 percent of the actual construction is being done by private contractors, with the remainder to be performed by the Forest Service with force account operations.

The work is so difficult that over-all equipment depreciation—for both Forest Service and private contractors—is expected to reach $1,500,000 for this year alone. In addition, a $1,500,000 equipment repair bill for both government and contractors is anticipated.

Our last timber reserves

The national forest stands of high mountain or other remote timber, together with other public timber, now constitute the United States' last major reserve. Those areas being tapped by the new roads will be cut on a sustained yield basis, thus assuring their continuous production of timber for the future as well as lumber at the present time for housing. The roads will be of permanent value, Forest Service officials believe, because after the housing emergency is ended they will make possible the orderly management and protection of the areas they tap for the continuous growing and harvesting of timber crops to maintain safe yields.

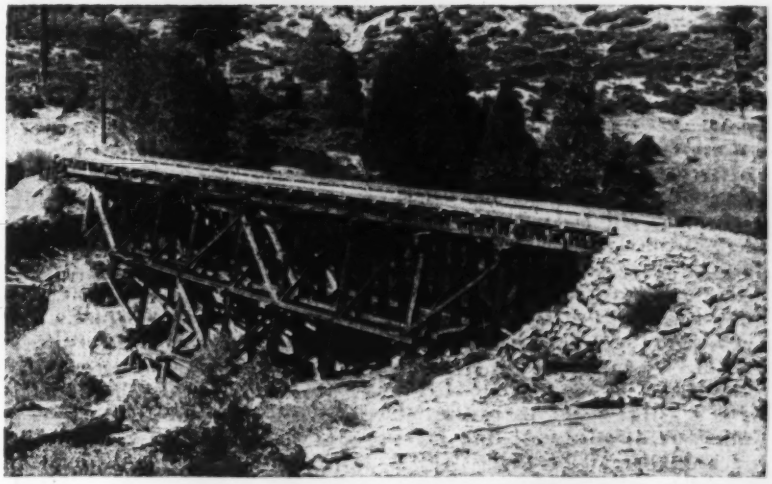
The typical project calls for a 2-way logging road. However, a limited mileage will consist of 1-way roads with frequent turnouts. Practically all of the new mileage must be surfaced with gravel or crushed stone to serve as all-weather routes. On most of the projects the maximum grade is limited to seven percent but steeper grades are permitted for short distances where the resulting saving in cost is proved to be substantial.

Many bridges included

Extensive bridge work is involved and permanent structures are being built at most locations. The crossings are designed for the axle loads and spacings common to the logging industry in each locality. The bridges include steel, concrete, and treated timber structures.

Road mileage being built in the various national forest states are: Alabama, 5.35; Arkansas, 54.6; Arizona, 43; California, 225.7; Colorado, 163.2; Florida, 145.7; Georgia, 27.7; Idaho, 239.7; Illinois, 1.0; Kentucky, 12.1; Louisiana, 33.3; Michigan, 30.1; Minnesota, 126.7; Mississippi, 120.1; Montana, 274.6; New Hampshire, 9.5; New Mexico, 119; North Carolina, 34.5; Oregon, 184; Pennsylvania, 9; South Carolina, 43; South Dakota, 10; Tennessee, 38.5; Texas, 15.2; Utah, 80.3; Vermont, 9.2; Virginia, 39.5; Washington, 117.3; West Virginia, 22.6; Wisconsin, 16; and Wyoming, 94.5. Total mileage for all states will be 2,345.

The NHA has allotted $11,800,000 to the Forest Service for the work and an additional $5,200,000 is available from regular Forest Service funds, making a total of $17,000,000.



All photos by U. S. Forest Service

Bridges to carry the heavy trucking equipment of logging companies over the many small streams in national forests provide constant problems for engineers. In general, one-way treated timber structures like the one at top are used over small streams. For larger crossings, heavier plate-girder structures are being built, and in some cases, even suspension bridges are planned. At bottom, a completed section of forest road—in Mendocino National Forest, California, is already in use as trucks roll toward sawmills.

Annual Moles Award to Crimmins, Morrison

New York contractor and head of Idaho firm recognized for construction achievements

Thomas Crimmins, head of the New York firm of Thomas Crimmins Contracting Co., and Harry W. Morrison, president of Morrison-Knudsen Co., Inc., of Boise, Idaho, have been selected by the Moles, New York society of tunnel and heavy construction men, to receive the organization's annual awards for "outstanding construction achievement."

Presentation of citations and bronze plaques will be made at an annual dinner scheduled for Feb. 5, 1947, in New York City.

A 1900 civil engineering graduate of Harvard University, and a veteran of the first World War, Mr. Crimmins now heads a company started by his grandfather in 1848—a company which, among other things, built New York's first cable-car lines. The organization has specialized in foundations, tunnels, public utility substructures and waterfront work, and includes among its jobs foundations for many notable New York skyscrapers, the Henry Hudson Bridge and portions of the Catskill Aqueduct, and the Queens-Midtown Tunnel. Mr. Crimmins joined the company in 1900, and became its president in 1904, when he was 24 years of age. He is a past-president of the General Contractors Association of New York, and a director of the Regional Plan Association of New York.

Morrison rose fast

Mr. Morrison, a native of Illinois, first started work as a water boy for a Chicago construction firm in 1902. After finishing a business college course, he became a time-keeper for the company, and then joined the Bureau of Reclamation for a six-year period (1906-12), during this period obtaining a civil engineering degree from a correspondence school.

In 1912, he joined the new firm of Morrison-Knudsen as a partner in a contracting venture that was to become one of the most successful in construction history. When bids were called for Boulder Dam, he was instrumental in combining a group of contractors to take the job under the name of Six Companies, Inc., and the move set a pattern for successive combinations that built great projects and carried out tremendous amounts of war construction during the past emergency.

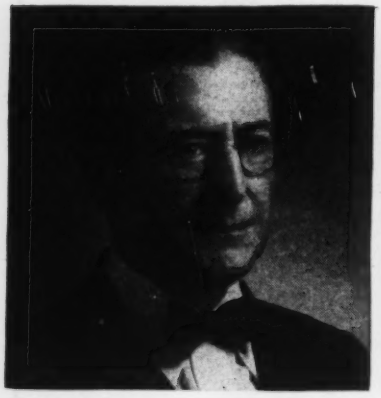
Called "one of the world's greatest builders" by Naval officers who worked with him, Mr. Morrison now directs activities which cover construction work all over the world.

Previous winners of The Moles' awards include Gen. Brehon B. Somervell, and Admiral Ben Moreell.

Large new water main planned at Kansas City

Kansas City, Mo., officials are planning a new $2,000,000 water main from the Turkey Creek pumping station at 23d and Fairmount streets to the reservoir and pumping station at 75th and Holmes streets.

The project will be financed from surplus funds accumulated by the department. The total amount is now on hand and available as surplus funds. Melvin P. Hutcher, director of the water department, said that a request would be made to the city council before Jan. 1 to transfer the funds.



Winners—Thomas L. Crimmins, (left) president of a New York contracting firm, and Henry Morrison, president of Morrison Knudsen Co., Inc., will receive the annual Moles, Award of that organization's scheduled annual meeting, to be held in New York City Feb. 5, 1947.

Louisville floodwall work to proceed at once

The first $1,000,000 for the Louisville, Ky., floodwall on the Ohio River has been released by the government. The office of Col. B. B. Talley, U. S. district engineer at Louisville, received the notification from Brig. Gen. Douglas L. Weart, Cincinnati, Ohio, division engineer.

Mayor E. Leland Taylor of Louisville said that work had been proceeding on purchase of rights-of-way by the city (out of floodwall bonds which have been sold) and that two sections of the wall were ready to be worked on. He listed these as from the southwestern city limits northward to a point in Shawnee Park, and from a point at or near the latter around the bend to the Louisville entrance of the K. & I. bridge.

Taylor said he had been advised recently by the U. S. Engineers that if the first $1,000,000 were forthcoming during the next 30 days the work it would cover could be completed during the fiscal year of 1948.

New York approves new fire-protection material

In an action that may have a significant effect on fireproof construction, the New York City Board of Standards and Appeals last week approved the use of a ceiling of 1-in. factory-premixed vermiculite-gypsum plaster on metal lath as 3-hr. protection for rolled steel members.

The board also gave a 3-hr. rating to the same thickness of this material plastered on metal lath furred off 1 in. from column faces for protection of steel columns. A ⅛-in. white-coat may be substituted for ⅛-in. of the mix. A steel column covered in the same manner but in addition filled with a loose 610 size vermiculite mixture was given a 4-hr. rating. These rating were based on the results of a fire test made last summer.

The aggregate used is an enfoliated vermiculite, which is an altered mica.

Test sponsors pointed out that plaster made of vermiculite weighs less than 4 lb. per sq.ft., and thus the highest fire protection ratings may be obtained with savings in dead load over materials commonly used for this purpose.

To obtain a 4-hr. rating, the temperature of protected steel must not exceed 925 deg. F. in four hours, with the furnace attaining a temperature of 2,000 deg. F. under the conventional time-temperature curve.

The test was sponsored by Munn and Steele, Inc., of Newark, N. J., manufacturers of the mix.

NSPE convention seeks clarification of labor laws affecting professionals

National Society of Professional Engineers will advocate protection from pressure to join miscellaneous unions—Re-elects Ritchie Lawrie, Jr., as president at annual meeting

Clarification of the Wagner Act as it affects professional employees and amendments which will protect such employees from being forced to join heterogeneous labor unions will be sought by the National Society of Professional Engineers when the next Congress considers labor legislation. The NSPE will support efforts of the Engineers Joint Council in this direction and is ready to take direct action on its own initiative if necessary.

Convening in Atlanta, Ga., last week for its 12th annual meeting, the NSPE by unanimous vote instructed its legislative committee to effectuate the policy program and to work for amendments to the Wagner Act which would prevent labor organizations from forcing professional employees to join unions not of their own choosing. It was recognized that the engineering societies could not act as a bargaining agent for engineering employees since such societies are composed of employers as well as employees. However, the NSPE is ready to plead the case of any employees in establishing their own collective bargaining agency.

Amendments sought will guarantee professional employees the right to determine whether or not they want to bargain collectively, and, where they desire it, to do so through representatives of their own choosing in a bargaining unit also on the basis of their own choice.

President Ritchie Lawrie, Jr., partner in the firm of Lawrie & Green, Harrisburg, Pa., in his opening remarks to the convention said that the engineering profession has not been immune to the problems of labor organizations. "It has had to wrestle with the problem at first hand and has seen some of the more unfortunate aspects of unionization insofar as the engineering profession is concerned, he said. "It has come to the conclusion that changes should be made in labor legislation and the NSPE has been endeavoring to collect the thinking of all elements of the profession in order to make proper presentations to Congress when labor laws are next considered."

The delegates were told by Mr. Ritchie that the NSPE has accomplished much toward solidifying the profession and creating in it a consciousness of its social and professional responsibilities. He declared that plans are being made for expansion of membership, active study, report and representations on legislation affecting the engineer, and continued emphasis on social and economic responsibility of the profession.

Membership rising

The membership committee reported that the society now has 14,012 members, an increase of 3,154 during the past year. There are now 74,373 registered engineers in the United States.

At the closing session, a telegram was received from the District of Columbia chapter asking the convention to make a protest against the importation of German engineers and scientists who later will be granted citizenship and released to industry. The telegram was referred to the executive committee for action.

A proposal that any engineer recommended for a federal appointment should be a registered professional engineer was unanimously adopted.

The report of the society's organizational committee revealed wide differences in constitution and by-laws of local organizations. The meeting adopted a resolution to formulate a model constitution and by-laws so that there will be some uniformity in state and local organizations. Efforts will be made during the year to interest existing state societies in affiliating with the national organization. State societies will be asked to create a membership status and promote engineers-in-training programs.

M. W. Cameron, of the public relations committee, reported that a handbook on public relations for engineers will be prepared during the year and distributed as a guide for discussion and action on ramifications of the subject.

The meeting indicated its desire to cooperate with other engineering societies to promote the professional and economic status of the profession and will join in studies on the economic status of the engineer. The NSPE adopted the canon of ethics as prepared by the Engineers' Council for Professional Development.

Officers elected

Re-elected were Ritchie Lawrie, Jr., president, James F. Fairman, vice-president of Consolidated Edison Co., New York, vice-president for northeastern zone; Alex Van Praag, Jr., member of the firm of Warren & Van Praag, Inc., Decatur, Ill., vice-president for central zone; William L. Thrailkill, assistant general manager of Washington Water Power Co., Spokane, vice-president for western zone. Alan G. Stanford, vice-president of Robert & Co., Inc., Atlanta, was elected vice-president for the southern zone, and Russell B. Allen, professor of civil engineering at University of Maryland, was elected treasurer. Paul H. Robbins was re-elected executive director.

The meeting at its closing session accepted the invitation of the Erie County Chapter of the New York State Society of Professional Engineers to hold the 1947 convention at Buffalo, N. Y.

HIGH HEAT

An unusual departure from the ordinary technique of heating office buildings is to be tried out in Dallas, Tex., where two large boilers are to be installed on top of the 18-story Kirby Building. Because of the high rental value of the basement it was not desirable to use space there for the heating equipment.

Hoisting of the boilers is scheduled to take place about Jan. 15. The boilers, which are of the 2,500 sq. ft. EDR rating type and very large, will be hoisted on a beam and trolley fixed to the top of the building and extending out from the cornice over the busy street where all traffic will be suspended during the operation.

Million dollar research building for Kansas City

Plans for the construction of a $1,000,000 building by the Midwest Research Institute at Kansas City, Mo., have been filed with the city board of zoning adjustment by trustees of the William Rockhill Nelson Trust.

William D. Wight, of Wight and Wight, architects, said the building, with its landscaped grounds, would conform with the cultural center which also includes the University of Kansas City, the Kansas City Art Institute, the proposed Linda S. Hall Library, Rockhurst College and Menorah hospital.

The building, to contain 150,000 sq. ft. of floor space, would have a basic laboratory for engineering, physics, chemistry, and mechanics, a lecture and assembly hall, a scientific museum, and administrative offices.

MEN AND JOBS

Gilbert H. Hogue, 69, who has been with the Bureau of Reclamation longer than any other person now in its employ, has made application for retirement. Entering the service when 25 years old, Mr. Hogue has been with Reclamation more than 44 years.

Now field engineer on the Bureau's Central Valley project in California, Mr. Hogue is stationed at Friant, where he is in charge of surveys on canal locations and of the preparation of maps and profiles. Previous to going to Central Valley he served on several projects in other states. Mr. Hogue joined the Reclamation service two years after he was graduated from the University of Idaho as a civil engineer. He has served under ten Secretaries of the Interior.

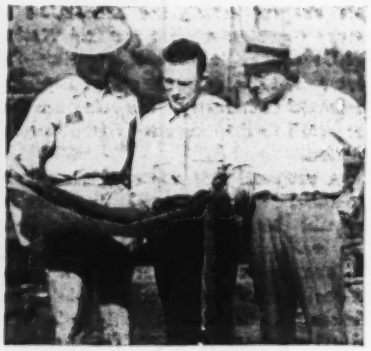
John O. McWilliams, county engineer at Cuyahoga County, (Cleveland), Ohio, for the last 14 years, has tendered his resignation to become effective Dec. 31. McWilliams recommended as his successor his chief deputy **A. S. Porter** who has been with the county's engineering department since 1933. McWilliams will devote his time to operating the Plastic Engineering Research Co., Cleveland.

William T. Wright has returned to his former position as head of the engineering division of Kistner, Curtis and Wright, architects and engineers of Los Angeles and San Diego, Calif., and will become a member of that firm. He was recently released from duty with the Navy Civil Engineer Corps in which he advanced to the rank of captain and received the Legion of Merit award for outstanding service. During his 5½ years of active Navy service he had various assignments including, contract superintendent in the public works office, Eleventh Naval District; officer in charge, 138th Naval Construction Battalion; executive officer 3rd U. S. Naval Construction Brigade and of the Base Planning and Construction Division; Service Force Seventh Fleet, in the New Guinea-Philippine campaign; and lastly as Bureau of Yards and Docks representative in the Defense Aid-Reciprocal Aid Review Board in Australia where he assisted in the liquidation of all U. S. Navy property in the Australia-New Guinea area and in the sale of the Navy's surplus property and equipment to the Netherlands Indies government.

Cooper Dewey (left), resident engineer for the Texas State Highway Department at Galveston, and Dan Dyess, superintendent of construction for Brown and Root, and M. G. Cornelius, assistant district engineer, Houston, pose atop a pile of oyster shell used as aggregate for roads.

J. S. Longwell, chief engineer and general manager of the East Bay (Calif.) municipal Utility District (left), Mrs. Arthur Powell Davis, and D. P. Barrows, meet at ceremonies held recently at Pardee Dam, a unit of the Mokelumne Project, honoring the late Mr. Davis.

D. M. Crockett (left), district engineer for the central district of the South Carolina State Highway Department, and J. E. Lemond, inspector for the department on a bridge job at the town of Lancaster, rest on a section of railing to discuss details of completion of the job.



Victor Kaminsky, project engineer (center) checks plans with A. E. Bond (left) engineer for the Wainer Construction Co., and G. T. Legge, resident engineer for the Georgia State Highway Department. The three men are supervising construction of a 243-ft. long bridge near Zebulon, Ga.

Among professional observers in the United States at the invitation of the transportation section of the Institute of Inter-American Affairs are **Ponciano Severino Torrado,** a graduate in engineering of the University of Montevideo, a career engineer in the design and construction of highways in The Department of Public Works with eighteen years experience, now the assistant chief engineer of planning and design, and professor of drawing and cartography and assistant professor of bridge and structural design in the University of Montevideo, author of a number of books and articles on engineering subjects; and **Humberto Parades,** graduate in engineering Central University, Quito, Ecuador, a career engineer on highway design and construction.

Francis H. Crockett, a 1935 civil engineering graduate of Vanderbilt University, is now with the Tanner Engineering Co. at Lexington, Ky. He has practiced in a wide territory as an engineer and contractor. His associate, **Fred L. Tanner, Jr.,** is a graduate of Georgia Institute of Technology and has had 23 years experience in consulting work in Chicago, Ill. and Ft. Wayne, Ind.

Chalmers Jack Mackenzie, president of the National Research Council of Canada, and a past president of the Engineering Institute of Canada, has been elected a Fellow of the Royal Society of London, one of the highest honors of the scientific world. Dr.

Mackenzie was trained as a civil engineer at Dalhousie University and at Harvard University, and was for many years dean of engineering at the University of Saskatchewan.

Lt. Col. Emil Silverman has returned to the St. Paul, Minn., District Engineer Office as a civilian to be acting executive officer. During military service, 1942 to 1945, Colonel Silverman was in charge of the military supply and inspection division of the St. Paul district and from September, 1945, to November, 1946, served as executive officer. He has been with the district as a civilian and as a commissioned officer since 1933.

J. W. White, district engineer since 1919 at Edmonton, Alta., for Canadian National Railways, is retiring on superannuation after 45 years service.

A. L. Peters of Grandmarsh has been elected highway commissioner of Adams County, Wis., to succeed H. Keach.

Harry Mierow, has been elected highway commissioner of Eau Claire County, Wis., to succeed **Gay Osborn** who is retiring after 25 years of service.

Abner Gwinn recently named chief of the state parks by the Missouri State Park Board is a graduate of the University of Missouri's Engineering School. He has been an engineer with the Missouri Highway Department since 1922.

Leon J. Smith has been elected surveyor of Allen County, Ind., in Fort Wayne, to take office Jan. 1. Herbert W. Henschen has been named chief deputy, with Robert J. LaLone and Onal E. Gibson engineering deputies.

Hugh A. Young, vice-president of Canada's Central Mortgage and Housing Corp., has been appointed president of Wartime Housing Limited, succeeding B. K. Boulton. **Thomas Gray** continues as general manager of Wartime Housing Limited and has been elected a director of the company.

Appointment of **Commander Paul C. Gillette**, CEC, USNR, as liaison officer for the Civil Engineer Corps Volunteer Reserve Organization within the Potomac River Naval Command has been announced by the Navy's Bureau of Yards and Docks. Commander Gillette will serve on the staff of the Director of Reserve activities for the Potomac River Naval Command, with assignment to CEC activities.

He served nearly thirty months overseas and directed the last major foreign job of the Seabees—construction of the Tsingtao airfield in China.

Former Seabee officers and other CEC reserves desiring to participate in the newly organized Civil Engineer Corps reserve organization are urged to contact Commander Gillette.

William H. Stuart, formerly deputy minister of highways and public works, Nova Scotia, Can., and more recently deputy minister of industry and publicity, has resigned to be come manager of Fred Mannix Construction Co. Ltd.

W. J. McAdam, chief engineer, Wartime Housing Ltd. Toronto, Ont., has resigned.

Harry E. Pollock of Asheville, N. C., has been appointed deputy administrator of real property disposal, War Assets Administration. During the war he served as chief of the Price Adjustment Branch of the Division of Engineers, Great Lakes Division, Chicago.

S. P. Howell, who has been serving as project engineer with the Civil Aeronautics Administration on the construction of a municipal airport at Burlington, N. C., has been transferred to the Ninth Region CAA office at Honolulu. He has been succeeded at Burlington by **N. L. Coiner,** who has been serving as assistant project engineer.

James A. Parrish, Jr., of Asheville, N. C., a veteran of World War II, has been named superintendent of streets at Asheville to succeed **John Stevens,** who resigned recently to enter private business. Since being separated from the Army, Parrish has been in the contracting business with his father.

Constructing bituminous pavement with blow-sand and asphalt among the sand hills of Nebraska is no unusual problem to J. M. Crook, district engineer (left) and A. E. Moomaw, project engineer, both representing the Nebraska State Highway Department on paving work.

C. L. Curtis (right) looks thoughtful over a problem posed by R. L. Freeman (left) superintendent for J. D. Proctor, Inc. Mr. Curtis represents a combination of the United Concrete Pipe Corp. and Ralph A. Bell as prime contractor on the Terminal Island Lift Bridge, Long Beach, Calif.

J. R. MacDonald (left) project manager for J. H. Pomeroy and Co., Inc., and Comdr. J. S. Marsh, CEC, public works officer in charge of construction, are top men on the job of "restrengthening" two timber blimp docks at the Navy's base of Moffett Field, near San Francisco, Calif.

Leon Archibald (left) project engineer, Federal Public Housing Authority, checks with a workman on erection of temporary housing at colleges. He's in charge of erection of some 1,840 dwelling units in the states of Minnesota, North Dakota and Wisconsin for ex-GI college students.

Large rise in maintenance costs reported at highway research meeting

Overall costs up 35 percent above 1941—types of organizations for state and local road departments under study

Maintenance of highways now costs 35 percent more than before the war, according to a report of the Committee on Maintenance Costs of the Highway Research Board, which was presented during the third day of the annual meeting of that board held in Washington Dec. 5-8 (*ENR* Dec. 12, vol. p. 769).

The committee, which is headed by J. S. Bright, deputy commissioner, Public Roads Administration, found that there has been a 42 percent rise in the composite labor cost for the year 1945 over the year 1941, that material costs are up 30 percent, equipment rentals up 29 percent and overhead is up 27 percent. Offsetting the higher cost somewhat, the committee said, are some new methods of maintenance developed during the war and a wider use of mechanical equipment. Some states have made quite material reductions in costs by this means.

Salvaging pavements

An extended discussion of salvaging wornout pavements was led by N. F. Schafer of the Indiana Commission, who is heading a committee set up to develop information on that subject.

Commenting on the resurfacing of concrete pavements with bituminous mixtures, W. R. Woolley of the Public Roads Administration drew attention to the fact that bituminous resurfacing adds little or nothing to the load carrying capacity of the pavement. He noted, however, that the bituminous surfacing does materially reduce the effect of impact. Mr. Woolley said that if 1.7 percent of the area of the pavement needs to be patched with concrete, the cost of that work will be about equal to the cost of resurfacing, hence resurfacing is indicated when that state has been reached. He put the resurfacing cost at $1 per sq.yd. assuming a service life of ten years. Mr. Woolley believes, however, that a 15-year service life can be assumed safely, in which case resurfacing is indicated if 1 percent of the surface calls for patching

Harold Allen of the Public Roads Administration reported that Wartime Bulletin No. 4, which relates to the pumping of pavement, is being revised and will be ready for distribution soon. The Committee on Maintenance of Joints hopes to be able to report this year on designs for concrete pavements to avoid pumping.

A detailed report of the effect of experimental subgrade treatment on pavement faulting and pavement pumping was presented by E. A. Henderson who has cooperated in the study with W. T. Spencer of the Indiana State Highway Commission. Six types of subgrade treatment were applied to test sections of U. S. Highway No. 30 in Indiana when it was reconstructed in 1937. The highway is built over plastic silty clay soil. Granular base courses contributed the most to improvement of pavement performance. Mixing bituminous materials with the fine-grain subgrade soil did not prove to be quite as satisfactory as the granular treatment.

Spacing of joints

Progress in a cooperative study of joint spacing was reported by Earl C. Sutherland and Harry D. Cashell of the Public Roads Administration. This year's report was confined to a discussion of annual and progressive changes in joint widths found on test sections in the six states participating in the study. Briefly, it has been found that expansion joints closed progressively and that the contraction joints opened progressively with time. Except in the pavements in California and Missouri, the progressive opening of contraction joints has been much greater in the sections with the 120-ft. expansion joint spacing than in the section with greater expansion joint spacing.

Comparison of surface types

Further information on the economic study of highway surface types being conducted under the direction of R. A. Moyer, research professor of highway engineering at Iowa State College, was given at the session devoted to economics, finance and highway administration. The studies relate to untreated roads of selected soil, gravel and macadam in Iowa and Kansas as compared to treated surfaces in their effect on vehicle operating costs.

Obviously, said Prof. Moyer, first costs are much lower for untreated surfaces, but as the vehicle operating costs on the untreated roads are generally 50 percent greater than on treated surfaces, building roads with untreated surfaces is only justified where the vehicle mileage is very low.

Vehicle operating costs, as determined by the Iowa studies, are as follows:

	Cents Per Mile
Earth roads	3.9¢
Gravel	3.35
Pavement	2.7¢

Outstanding among the conclusions of the committee, Mr. Moyer said, is that a higher type of pavement is warranted if traffic exceeds 1,000 vehicles per day. He went on to say that this points to the need for including vehicle operating costs when discussing road reconstruction plans with the local bodies who must provide part of the cost. An all-weather surface can be justified for traffic as low as ten vehicles per day if all the costs, including lost time, are taken into consideration.

Very high maintenance costs were found on roads which had a bituminous surface treatment without a proper base.

Chlorides for compaction

A review of current research work sponsored by the Committee on Soil-Calcium Chloride Roads was given by the chairman, H. F. Clemmer, engineer of materials, engineering department, District of Columbia, at the session devoted to soils investigations. He was followed by E. J. Yoder who described the program of experimental work being carried on at Purdue University into the effect of the addition of calcium chloride to soils prior to compaction. Prof. B. G. Johnston gave similar information concerning corresponding work now underway at the University of Maryland.

Six typical northern soils were treated at Purdue, including glacial soils, and typical southern residual soils were tested at the University of Mary land. While the northern soils gave somewhat indefinite results, the residual soils did show generally slight increase in dry density when compacted by standard methods with additions of calcium chloride up to 3 percent by weight.

Compaction practices discussed

Widespread use of standard compaction practices was discussed by L. D. Hicks of the North Carolina Highway Commission. Results of a detailed questionnaire that had been sent out during the year to 51 highway organizations were summarized. Analysis of the replies in detail will be published in 1947 after all contributing organizations have had an opportunity to review the proposed statement.

The committee has arranged for four highway departments to make field tests during the coming year in order

to check on the fluctuations in the "moisture content-density relation" of compacted soils throughout a 12-month period. Examples of field tests upon compacted soils which have been in place for some time were given by Mr. Hicks, and O. J. Porter of the California highway department.

In North Carolina, densities up to 105 percent of those obtained with standard AASHO procedures have been found in pavement base courses, clearly showing the effect of traffic. In California, under an airfield pavement subjected to very heavy airplane loadings, Mr. Porter has found densities up to 110 percent of the density to be obtained with the modified AASHO procedure to a depth of 25 in.

The Texas State Highway Department is engaged upon a comprehensive investigation of all the factors affecting the use of strength tests for subgrade soils and flexible base materials. A progress report upon this work was presented by Chester McDowell, senior soils engineer to the Department. Testing work so far completed has shown the advisability of using test cylinders 6 in. diameter, 8 in. high in order that samples to be tested may be typical of materials in place.

Airfield pavements

Studies made by the Bureau of Yards and Docks and the Bureau of Aeronautics of the Navy Department to evaluate the wheel-load bearing capacity of flexible pavements were reported by L. A. Palmer of the Bureau of Yards and Docks. The chief objective of this study was to determine what weight of planes could use existing fields without damage to the surfacing. Deflections more than two-tenths of an inch were assumed to be the limit beyond which damage would result.

The subgrade moisture and density conditions found in this investigation were considerably more favorable than the conditions that are frequently assumed in designing flexible types of pavements on the basis of California bearing-ratio tests. The average density of sand subgrade under flexible pavements at three air stations exceeded the average maximum density attained by the modified AASHO compaction procedure. The observed high density thus indicated that the bearing values of the pavements were increased by traffic. No effect of subgrade moisture content on the bearing value has been apparent in the analyses made thus far.

Methods used in this country for the design of airfield pavements are too conservative, according to Norman W. McLeod, engineering consultant of the Canadian Department of Transport. Mr. McLeod based this conclusion on the findings of an extensive study of airfields built in Canada during the war to correlate their actual load-bearing capacity with design methods. At the big Dorval field near Montreal, for example, it was found that design methods recommended by the CAA, USED and PRA all indicate that the flexible type pavement used there could not carry the loads that they are carrying daily in large volume. Values for subgrade soils determined by the California bearing-ration method were quite low, averaging 3.7 and running as low as 2.9.

As a result of these studies, the Department of transport has developed two methods of design which are now under study.

Progress on a special full-scale research project into the design and performance of non-rigid pavements was reported in a paper by A. C. Benkelman and F. R. Olmstead, both of the Public Roads Administration. The project consists of a large oval test track, located in the Hybla Valley, Va., 10 miles south of Washington, D. C. It is being sponsored by the Highway Research Board, the PRA and the U. S. Army Engineers.

Use of aerial mapping

Several papers were presented dealing with the use of aerial photographs in relation to various aspects of highway engineering, the first ones having been prepared by members of the staff of the Joint Highway Research Project of Purdue University and the State Highway Commission of Indiana.

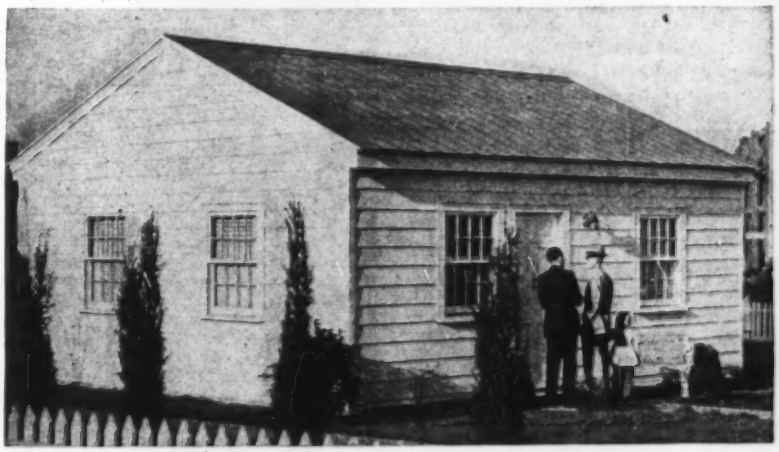
R. E. Frost and J. D. Mollard discussed the use of such photographs for the determination of significant glacial features of Indiana topography. This work has developed from the preparation of soil and drainage maps for each county in the state of Indiana. Examination of the photographs for this dual purpose has led to the rapid recognition of special glacial features.

Pavement performance surveys

A new method of making pavement performance surveys by means of continuous strip aerial photographs was described by J. E. Hittle of the Joint Highway Research Project at Purdue University. Scales of 1 in. equals 25 ft. can be obtained by low flying. By using two cameras, stereoscopic effects can be obtained that show cuts and fills, thus helping to classify conditions affecting pavement. By combining the results of soil surveys with these aerial pictures, their usefulness is greatly increased.

In answer to a question as to the cost of this aerial survey work, Prof. K. B. Woods of Purdue said that costs vary widely, but they range between $30 and $40 a mile on work covering from 50 to 100 miles of highway.

A paper that brought forth extensive discussion was that entitled "Map-Cracking in Concrete Pavements as In-



***Aluminum Prefab**—Another candidate in the expanding field of metal prefabricated homes is this product of the Southern States Iron Roofing Co., recenty opened for public inspection near the company's home office in Birmingham, Ala. Frame, side walls and roof of the 20 x 24-ft. structure are made of special aluminum alloys, and it is claimed that the structure can be erected by two men. All side walls, studs, ceiling joists and roof purlins are made with a special nailing slot so that any desired interior or exterior can be applied. First units, designed to sell for $899.75 fob Birmingham, contain living room, bedroom, bath, kitchen and dining area.*

fluenced by Soil Texture," and prepared by H. S. Sweet and K. B. Woods of Purdue University. After extensive performance surveys of Indiana portland-cement concrete pavements showing map cracking and deterioration due to the use of inferior aggregates, the authors concluded that those sections with uniformly poor performance were located on either silty-clay soils or on semi-granular soils with a high water table. It was further concluded that map cracking associated with the use of inferior Indiana aggregate could be minimized by the use of a high-level grade line to facilitate drainage in combination with freely draining subgrade material, as typified by Indiana windblown sands.

Capillary rise in soils

Capillarity tests upon soils of various types were reported in two papers, one by Kenneth S. Lane and D. E. Washburn of the U. S. Engineer Office, Providence, R. I., and the other by D. P. Krynine of the Department of Civil Engineering, Yale University. Lane and Washburn experimented with eight soils and compared the results obtained with the usual long-term tests in which samples of the soils were placed in tall open vertical tubes, in contact with water at their lower ends, and corresponding tests conducted in several types of capillarimeter. The latter tests can be conducted much more quickly than the open tube tests, in which water is gradually drawr up the tubes by capillary action, but they gave results consistently lower.

The paper presents also a comparison of actual rates of capillary rise, in the tube tests, with the calculated speed of rise based on theoretical considerations (as shown in Terzaghi's "Theoretical Soil Mechanics"). Actual rates were found to be consistently lower than the calculated values, and the reasons for the variation are also discussed.

Lane and Washburn presented, finally, the records of tests of the moisture content of the soil samples at regular intervals up the tubes at the conclusion of their long-term tests. The moisture content was found to be sensibly constant to about half way up the height of capillary rise and thereafter to decrease steadily. The authors stated that it is significant that the change in the degree of saturation of the soils corresponded, generally, with the capillary rise as determined in the capillarimeter tests, thus confirming the importance of the effect upon capillary characteristics of vapour pressure in the voids.

Somewhat similar experiments were reported by Prof. Krynine, although his work was confined to tests in open vertical tubes. By means of an ingenious apparatus, he was able to measure not only the capillary rise after a certain interval of time but also the quantity of water which had been "sucked up" by the soil. In all cases, the rate at which water was thus taken in to the soil was faster, at the beginning of experiments, than the rate at which the level of the top of the observed capillary water rose. Increase in the vapour pressure in the soil voids above the wetted part of the soil column was again advanced as the explanation.

Capacity of three-lane roads

The report of the Highway Capacity Committee, of which O. K. Normann of the Public Roads Administration is chairman, revealed some interesting conclusions regarding the characteristics of traffic using three-lane highways. These conclusions included: (1) At any point on a 3-lane highway relatively few vehicles are traveling in the center lane and the maximum number that can be in the center lane is about 300 per hour, regardless of the total traffic volume, when up to 70 percent of the total traffic is traveling in one direction; (2) A three-lane road will handle an hourly traffic volume approximately 75 percent higher than a two-lane road when both have good alignment.

Results of a traffic study of Fort Wayne, Ind., costing about $37,000 have convinced officials of the Indiana State Highway Commission that origin and destination survey data offer the most effective basis of any method presently available for the preparation of comprehensive highway plans for metropolitan areas, R. M. Brown, assistant engineer of road design of the commission reported to the committee on origin and destination surveys.

The city of Baltimore, Md., has also found the origin and destination method very effective, according to a paper given by Wm. F. Childs, Jr., director of the transportation study of the Baltimore area. The investigation carried out under his direction revealed that nearly 43 percent of the people wanting to park downtown were coming to the center of the city to their places of employment. More than 30 percent were on business trips and shopping was listed as the reason why 17 percent of the people were wanting parking space.

Parking studies

The city of Pittsburgh is planning a $34,000,000 program to relieve that city's parking problem, Donald M. McNeil, traffic engineer for Pittsburgh's bureau of Traffic planning, reported. He said that the proposal is to construct about twenty multi-story garages in the downtown area of the city. The parking authority planned to supervise the work will have the power of eminent domain to obtain the necessary land and carry out the program. Parking on down-town streets will be severely restricted.

Based on an exhaustive analysis of all existing general enabling legislation dealing with parking facilities, David R. Levin, transportation economist with the Public Roads Administration, reported that at present adequate legal authority is not available for cities to solve the parking problem. His studies revealed that in most municipalities the problem is being attacked by a number of groups instead of a single parking agency with the necessary broad powers to get the job done. He has therefore recommended that all state legislatures examine existing laws to see how they might best be improved. To make this study most effective, Mr. Levin has prepared model legislation giving maximum assistance to cities, counties and other local agencies dealing with the problem.

Analysis of traffic data

In a paper entitled "Application of Statistical Sampling Methods to Traffic Performance at Urban Intersections," Prof. Bruce D. Greenshields of George Washington University developed formulas applying the Poisson law to automotive traffic. Based upon his studies, Professor Greenshields believes that the use of the "random" series has great value in solving traffic problems and he predicts that many applications will be found for the Poisson series.

By using an electrically operated motion picture camera mounted on the structure, valuable data pertaining to the rate of deceleration and lateral movement of automobiles in approaching a bridge may be obtained, F. H. Green of Purdue University revealed. The procedure followed, which was described in a paper entitled "Method for Recording Lateral Position of Vehicles", will permit the position of a car approaching a bridge in the daytime to be so recorded that its lateral position may later be determined within 3 in. The method, which is nearly as effective at night time, can also be used to good advantage in evaluating the effectiveness of highway signs and markers.

As an aid to the work of planning for highways through urban areas, Raleigh W. Gamble, superintendent of street construction and repairs at Milwaukee, outlined the method of determining block lengths and including intersection lengths in such measurements that has been developed at Milwaukee. (*ENR*, Jan. 10, 1946, vol. p. 63).

In the sessions pertaining to roadside development, it was frequently stressed that the landscape engineer must do much more to gain recognition if he is to obtain his proper place in highway planning and maintenance. The development committee, of which H. J. Neale of the Virginia Department of Highways is chairman, also concluded that the engineering schools and colleges need to revise their curricula to provide better trained landscape engineers.

Loads on culverts

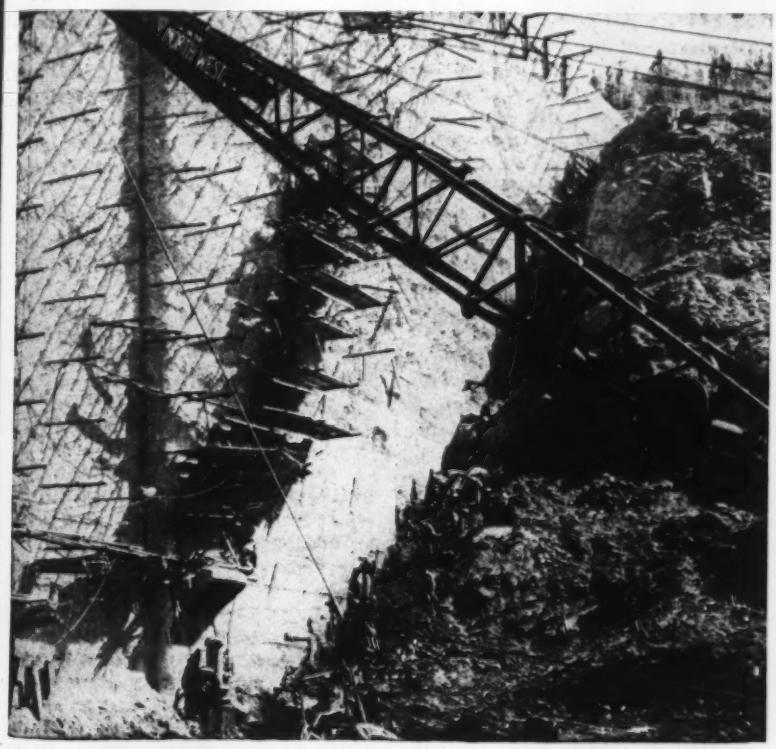
A detailed analysis of the load to which highway culverts may be subjected, and of methods that may be followed in calculating that supporting strength, was presented by M. G. Spangler, research associate professor at Iowa State College. This paper was essentially a review of the principal "Iowa Papers" on culvert design and installation, its conclusions endorsing the findings of Anson Marston reported in those papers. It therefore constitutes a general guide to the structural design of culverts, and to possible settlement of the ground above culverts as well as to the deformation of culverts themselves, and as such should prove to be a useful reference for designing engineers.

Abutment design studies

The fourth and final report on the design of abutments for small highway bridges was presented by Jacob Feld, consulting engineer, New York. It was prepared as part of a study of stress distribution in earth masses. When published, this report will give details of 64 typical abutment designs and economic comparisons of the principal types in general use. Despite the wide use of the gravity type abutment for small bridges, the report shows that it is the least economical statement of all to use.

Earl Bennett of the New York State Public Works Department outlined the plans of a new committee on granular soils, of which he is chairman. At the present time the committee is compiling a bibliography of published material. The study will include the use of granular soils both in the load structure proper and in the subgrade. The committee expects to work through regional groups in view of regional variations in the characteristics of granular soils.

An appeal for the accumulation of actual records of stream-bed scouring adjacent to bridges, and a suggestion that the subject was one requiring fundamental research study, were advanced by E. L. Erickson, assistant chief bridge engineer of the Public Roads Administration. Mr. Erickson presented a record of the scouring that took place in the bed of the Mississippi River during the construction of the highway bridge at Baton Rouge in 1938-39, where sand islands well built in deep water to facilitate sinking foundations for the main piers.



***Another Dam Gets Face Lifting**—Resurfacing is under way on the upstream side of Barker Dam near Denver, Colo. Here shown are the steel dowels projecting from the freshly cleaned concrete surface of the dam to which will be welded similar steel bars projecting from about 1,000 precast concrete slabs averaging 6½x12 ft. in size, that will be built up into a wall near the dam's upstream face. Space in between wall and dam is later to be filled with concrete by the prepack method. The dam is 175 ft. high, has a base thickness of 120 ft., is 16 ft. thick at the top and has a crest length of 720 ft. It is owned by the Public Service Company of Colorado.*

Highway administration

Studies made of the various types of highway administration throughout the country give no clear indication of what type is the best, according to W. L. Haas of the Public Roads Administration. Students of government favor the single-executive type of administration in theory, but studies of actual operations in states having the commission form of administration, made by committees set up for that purpose, have resulted in recommendations that the commission form of government be retained.

The program of a committee set up to make a study of county and local road administrations was outlined by C. M. Nelson, editor of *Better Roads*. This committee is to make a review of the various methods of administration of local roads and of the handicaps to such administration, also an appraisal of the achievements that have been made with limited funds when such administration is headed by an engineer.

In answer to a question as to how a study of this magnitude is to be financed, H. S. Fairbank, deputy commissioner, Public Roads Administration, stated that money for such a study could be taken from the 1½ percent of federal aid allocated to research and planning.

Numerous other papers were presented which, because of their character, do not lend themselves to brief summarization. All will appear in the proceedings of the Highway Research Board, which will be published some time during the latter part of 1947.

Challenge redevelopment law in Philadelphia court

Pennsylvania's recently-passed redevelopment law, permitting proper governmental subdivisions to set up authorities to clear slum area and replace them with new housing and industrial construction, is under attack in a suit in Philadelphia common pleas court.

Twenty-two organizations, the city of Philadelphia and the commonweatlh of Pennsylvania have rallied to the defense of the law by joining forces to battle the test case, which is directed specifically against the Philadelphia Redevelopment Authority. This body is planning a large-scale slum clearance program to be followed by concentrated industrial and business construction in the cleared central areas of the city housing projects in outlying sections.

A property owner filed the suit to test the act's legality, charging that:

The law makes illegal use of eminent domain in acquiring property not for public use; it grants illegal administrative powers to the redevelopment authority; it may cause an unlawful increase in the public debt; and under it insurance companies would be illegally permitted to gain private ownership of public properties.

C. Wayne Barbour heads The Asphalt Institute

At its recent annual meeting in New York City the board of directors of The Asphalt Institute, representing the major part of the petroleum asphalt production industry of the United States and Canada, elected C. Wayne Barbour of Allied Materials Corp., Oklahoma City, Okla., president and chairman of the executive committee, with George R. Christie, Socony-Vacuum Oil Co., Inc.; Inghram Grayson, Lion Oil Co.; Raymond Harsch, Shell Oil Co., Inc., San Francisco, Calif.; James J. Kelly, Kerr-McGee Oil Industries, Inc., Fen-Ter Refining Division; D. N. Myers, Byerlyte Corp.; and J. S. Sawyer, Shell Oil, Inc., New York, as members.

Bernard E. Gray was re-elected general manager-chief engineer and Herbert Spencer, secretary of the institute. F. V. Widger, Witco Chemical Co., was elected treasurer and John N. Smith, Socony-Vacuum Oil Co., Inc., assistant treasurer.

Mr. Barbour was one of the founders of Allied Materials Corp. in 1932, and is now its president. He is a graduate of the college of engineering of the University of Oklahoma, 1923.

Higher costs and wages curtail public works

Inflated construction costs coupled with the drain on available funds to pay higher wages is forcing postponement of major public works projects in an increasing number of U. S. cities, according to the International City Managers' Association.

Of 17 cities recently surveyed to determine effects of rising prices on municipal operating costs, nearly all are curtailing construction of capital improvements because of 100 per cent increases in building costs. At the same time, immediate necessity to pay higher wages and extend some city services regardless of cost has stimulated the already almost desperate search for new sources of revenue which now occupies the attention of municipal government bodies.

Typical case histories

Muskegon, Mich., is cited as a typical example of public works curtailment. Work on the city's new sewage disposal plant addition has been suspended because at current prices it would cost $900,000 for construction planned last year to cost $500,000. Bartlesville, Okla., may have to ration water next summer because costs of constructing a new pumping station have become prohibitive.

A similar report comes from Grand Junction, Colo., where bids have been rejected on much-needed waterworks because inflation has put construction costs beyond municipal budget limits. Berkeley, Cal., recently adopted a policy of rejecting bids out of line with normal price levels on virtually all but "emergency projects. Austin, Tex., is postponing construction of new municipal buildings for which plans already were completed.

The same dilemma prevails in other cities. In Long Beach, Calif., construction of new fire stations and libraries is being postponed. High Point, N. C., also is curtailing public works construction. Budget increases in both these cities are attributed to municipal pay increases and extension of essential services to new residential districts.

Other cities postponing work on planned capital improvements include Ashtabula, Ohio; Newton, Kan.; Roanoke, Va.; and West Palm Beach, Fla. Despite curtailing public works construction, more than half the 17 cities surveyed have found it necessary to increase tax rates during the last year. Three cities lowered tax rates in 1946, but increased property valuations generally increased their total revenues from normal property tax levies.

Beach erosion prevention planned in Connecticut

The Connecticut State Shore Erosion Control Committee met at New Haven recently to frame a 4-point legislative program with recommendations for $225,000 in appropriations for erosion control work. The bills will be presented in the General Assembly in January.

Under the plan, the state would cooperate with federal and municipal governments in erosion control work in critical areas at once, and later over the state's 100 miles of shoreline. The program is:

Immediate appropriation of $25,000 for an engineering survey of beaches in Fairfield, Stratford, Milford, Madison, Clinton, Westbrook and Stonington—critical areas recommended for attention by U. S. Army Engineers.

Appropriation of $50,000 to conduct an engineering survey of other eroded shore areas to determine the amount and kind of protective construction required.

Appropriation of $150,000 to be spent by the government under terms of the General Assembly's enabling bill as the state's share of the actual restoration and conservation program which will be supported by the federal government to one-third of the cost. Towns will raise the rest.

Authorization for a Water Policy or other appropriate agency to supervise public or private shoreline construction.

Lumber production is up to 33 billion b. ft.

The 1946 lumber production forecast has been raised to 33 billion b. ft. by the Department of Commerce, and total imports of at least 1 billion b. ft. are hoped for. Total requirements for consumption—excluding inventory replenishment—are now estimated at 34 billion b. ft. Thus there now appears to be a real prospect that the total supply of lumber will be adequate for all current essential requirements, according to the lumber industry report issued by the Forest Products Section of the Office of Domestic Commerce, at Washington, D. C.

This, however, does not mean that users will get all the lumber they want in the species, grades and specifications desired or needed, according to the report. Nor does it mean that they are likely to get the quantity wanted unless they happen to be advantageously located. Problems of maldistribution first must be solved, according to Commerce Department officials.

ENGINEERING SCHOOL NEWS

New professorship at Harvard Graduate School of Engineering—Carnegie Tech's "Pittsburgh Plan" to train engineering executives

The corporation of Harvard University has established within the graduate school of engineering a new category of professorships, substantially analogous to clinical professorships in medical schools, according to Dean Gordon M. Fair of the school.

Holder of these professorships are given the title of Professor of the Practice of Engineering. The purpose of instituting this category is to "make use of and give recognition to the services, both in teaching and research, of engineering practitioners who are eminent in their profession and scholarly in their contributions to the advancement of the science and the art of engineering."

Karl Terzaghi and Howard M. Turner are the first holders of these professorships in the field of civil engineering. Professor Terzaghi has been continuously associated with the graduate school of engineering as lecturer on soil mechanics and engineering geology since 1938; Professor Turner has been lecturer on water power engineering since 1919.

Arthur Casagrande has been appointed Gordon McKay Professor of soil mechanics and foundation engineering. He joined the Harvard staff in 1932, becoming assistant professor in 1934.

A program for training business and engineering executives, known as the Pittsburgh Plan, has been announced by John P. Roche, vice-president of Heppenstall Co. and Webster N. Jones of Carnegie Institute of Technology. This co-operative education program will be presented by Mr. Roche to the National Association of Manufacturers committee on co-operation with education.

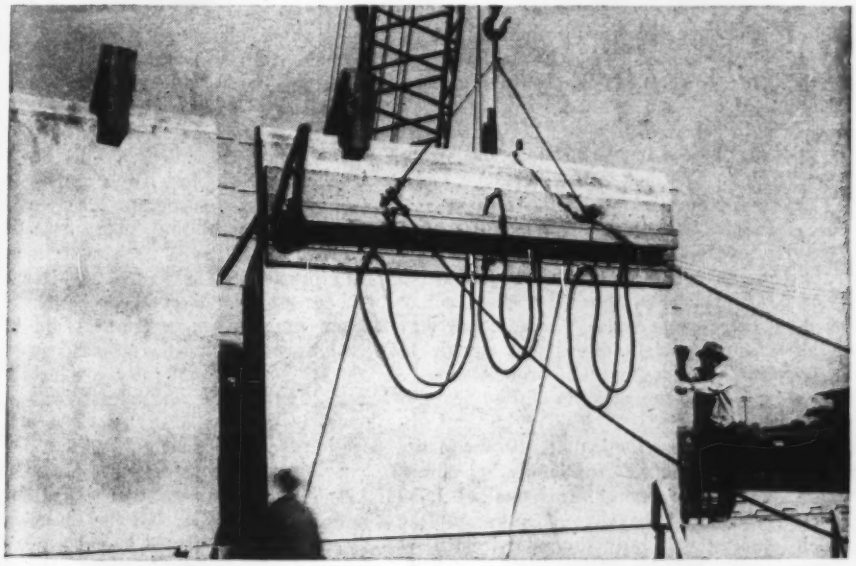
The engineering council of Iowa State College, Ames, has suggested to the state's congressional delegation at Washington that Public Law 346 be amended to provide the same travel pay allowances as Public Law 16. The object is to gain funds for the inspection trips which are included in the regular engineering curriculum. Students travel to designated industrial centers on these trips requiring from 5 to 8 days, the trips sometimes costing each student as much as $75.

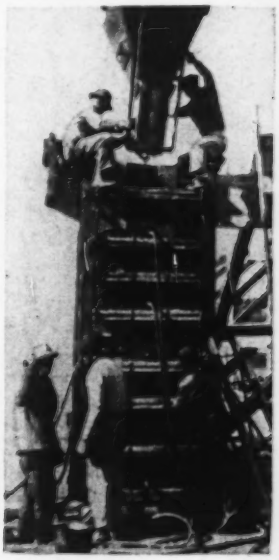
At present the college is authorized by the Veterans Administration to allow expenses for disabled veterans coming under Public Law 16 but is not authorized to do so for other veterans under Public Law 346, the regular G. I. bill.

Ever since he was 14, Alan Bessemer had been looking forward to the day he could see the "Steel City" his famous family helped to make great. And after more than nine years the great-nephew of Sir Henry Bessemer, inventor of the steel-making process which bears his name, finally has reached Pittsburgh, Pa. The 24-year-old British war hero, who won Britain's Distinguished Flying Cross, has enrolled as a freshman in civil engineering at Carnegie Institute of Technology — the institution founded by a long-time friend of the Bessemer family, the late Andrew Carnegie.

After having been on leave of absence since February, 1943, to work on stress analysis for the Goodyear Aircraft Corp. and in physical research for the B. F. Goodrich Co., Gerald K. Gillan has returned to the University of Missouri as an assistant professor of civil engineering.

Umphrey Lee, president of Southern Methodist University at Dallas, Tex., has announced that the university's engineering school will resume operation of its prewar co-operative work-study plan at the spring term beginning Feb. 3 next. The plan provides for engineering students to put in equal time in college training and employment in industry. Two students who have satisfactorily passed prescribed pre-engineering work for freshmen are allowed to hold a full time job together. One of them works on the job for eight weeks while the other goes to school.





Vacuum Concrete Inc. photo

***Vacuum Holds Forms**—This 6-ton precast slab is held only by vacuum as the lifting beam that sets it in place for part of the Luthe Hardware Co.'s new building at Des Moines, Ia. The 16-in. space between slabs becomes an 11½-in. deep pilaster, with concrete placed in forms held to the erected slabs by vacuum-induced pressure, without use of ties (right). Forms are removed after one hour. The Weitz Co., of Des Moines, is the contractor.*

Revision of Atlanta's building code likely as result of fatal hotel fire

Investigation shows Winecoff Hotel where 121 persons died had no fire escapes, no fire doors, and no sprinkler system

A general overhaul of the Atlanta, Ga., building code is likely as a result of the disastrous Winecoff Hotel fire in that city during the early morning of Dec. 7, when of the 280 guests registered, 121 persons lost their lives and 91 were injured, some critically.

Inspections of the charred insides of the 15-story hotel, and investigations seeking to determine the origin of the fire, have led to plans for immediate action by Atlanta authorities and proposals of bills to be presented to the state legislature when it convenes next month. Drastic action is sought to force all buildings to conform to present-day codes and to insure the installation of fire doors to prevent the spread of fire.

A 3-point program to eliminate fire hazards is in the making with recommendations made to:

1. Fireproof enclosure of all openings between floors, including stairways, elevators, dumb waiters, pipe shafts and similar constructions so that fire on one floor cannot extend to another.
2. Use of metal or heavy solid wooden doors on all rooms so that fire may not leave the room where it starts or spread into a room from the corridor.
3. The use of sprinkler systems to give alarm when a fire starts and to keep the blaze under control until firemen can reach the scene.

Fire origin undetermined

The exact origin of the fire has not been determined, but it is believed to have started on the third or fourth floor. Possibly by a lighted cigaret thrown onto the floor or into a mattress stored in the third floor hallway. The flames spread throughout the entire building so quickly that all avenues of escape were blocked in a short time.

The hotel was constructed in 1913, and since then no changes or alterations have been made. W. L. Stoddard, of New York, was the architect for the building, which had two enclosed elevators with open central stairs between them leading to a half-way landing from which stairs on each side led to the next floor. The building did not have a sprinkler system installed, nor was there a fire escape. There were no fire doors.

The 1911 building code, under which the hotel was built, provided stairways to be regulated by area of the building. Buildings having a floor area exceeding 5,000 sq.ft. and not over 6,500 sq.ft. were required to have at least two continuous lines of stairs remote from each other, and one continuous line of stairs for each 1,500 sq.ft. in excess of that required for 6,500 sq.ft. of area. The Winecoff Hotel had 4,386 sq.ft. of floor area, less than the amount calling for two stairs.

The 1911 code was revised in 1924 to require two stairways or fire escapes in all hotels and other places inhabited by a large number of people. However, the 1924 code was not retroactive and could not be enforced until alterations were made. In 1943 a revised code was adopted, written along the lines of the Fire Underwriters Code, which specified that all buildings must conform to the new code, which called for additional stairways and fire escapes. However, the city attorney ruled that buildings constructed under former codes are exempt, except when being altered.

Change in law needed

Marvin Harper, building inspector for Atlanta, points out that Atlanta received its charter from the state and cannot pass any ordinance that is in conflict with state laws, which say that a city ordinance cannot be made retroactive. Mr. Harper plans to ask for a change in the state laws as they affect fire protection and building codes. The proposed law to be sought would grant such powers to the city inspector and the fire marshal to enforce the building codes and make all old buildings conform.

Another measure to be sought by Mr. Harper will be restrictions on the use of oil and wax on floors and walls or the use of inflammable paint in corridors and stairways. All rugs and draperies must be fire-proofed.

One of the causes of the intensity of the fire and its rapid spread was the large amount of inflammable material in the hotel. The walls had a 3-foot wainscoat with linoleum from the baseboard to the wainscoat. This was covered, as were the walls and ceilings, with many layers of wallpaper and paint. The doors of the rooms were made of four one-eight-inch ply plywood. The present code calls for 1½- to 1¾-inch solid wood doors. Without fire doors, the fire, smoke and gases quickly spread throughout the structure.

Inspections revealed that the 9th, 10th, 11th, and 12th floors were the worst hit, while the 14th, 15th and 16th floors were not so badly damaged. No engineering defects have shown up in the building following the fire.

Boston city government plans $10 million housing

Taking advantage of new legislation giving municipalities authority to build, rent and sell houses, Boston, Mass., has approved a $10,000,000 program to put the city into 1-family housing production.

The new law, passed during the last year by the state legislature, declares a 5-year housing emergency, gives the cities the right to build, rent or sell single-family units, and makes special provision for slum clearance and redevelopment. Cities are authorized to spend money and take other action necessary to house veterans, and may use their right of eminent domain to obtain lands for such developments.

The Boston program will be financed by a $10,000,000 bond issue, and envisages construction of 510 one-family houses and 520 two-family structures, to provide shelter for a total of 1,550 families. The city plans to rent the houses originally to ex-servicemen, at rates of $50 per month for single houses; and $40 to $45 per month for duplex units. Present plans call for expenditures of about $7,800 for single units, and $11,500 for duplexes.

Urge concentration on multiple housing units

Sweeping changes in the present Veterans' Emergency Housing Program, and a new emphasis on construction of apartments for rent to the low and middle-income groups of veterans were urged last week in a report issued by the National Committee on Housing.

The committee, which has its headquarters in New York City, proposed:

Stimulation of moderate-price rental housing by permitting such projects, started before Jan. 1, 1949, to be completely amortized in five years without income tax penalties; a special emergency program of government aid to local housing authorities to build up to 100,000 dwelling units for low-income families; the ending of sales price and rental ceilings on new structures, and continued restrictions on deferrable, non-residential construction.

Another recommendation called for ending emphasis on, and the diversion of materials to "untried and experimental factory production methods and materials" in home building.

The proposals were an outgrowth of a 3-day housing inventory forecast conference held in Chicago recently.

OBITUARY

Edmund D. Eckroad, 66, Akron, Ohio, civil engineer, died Dec. 5. He was graduated from Case School in Cleveland in 1892, and was employed on the original construction of the Northern Ohio Traction & Light Co. line. He became assistant engineer in the ways and structures department in 1895, and chief engineer in 1898, a post he held until he retired 35 years later in 1933.

Charles A. McNall, 64, civil engineer at the Columbus, Ohio, General Depot, and formerly with the U. S. Treasury Department, Post Office Building, Columbus, died Dec. 2.

James T. Horton, 68, chief engineer with the municipal water department at Raleigh, N. C., died Dec. 7. He had been connected with the department for 20 years.

George E. Fisher, 75, former engineer with the Ohio State Highway Department, died at his home Dec. 7 in Norwalk.

Robert R. Armstrong, 90, retired civil engineer, died at Miami, Fla., recently. He went there from Philadelphia, Pa., 17 years ago.

Russell E. Snowden, 65, of Currituck, N. C., former construction engineer with the Atlantic Coast Line Railway, and later an engineer with the North Carolina State Highway Commission, died Dec. 5.

Martin S. Fabian, 42, assistant city engineer of Jacksonville, Fla., died Dec. 9. He had been in the engineering department since 1925, except for 38 months as a petty officer in the Navy. He was a graduate of the school of engineering, at Cornell University, Ithaca, N. Y.

Ralph W. Emerson, 70, a retired civil engineer of Pittsfield, Mass., died Dec. 9. He had been employed formerly as an engineer for the state of Massachusetts.

William Cotterill, 68, construction engineer of Asheville, N. C., since 1925, died Dec. 11. A native of Lancashire, England, he came to the United States 42 years ago and became superintendent of the Custodis Construction Co. of New York City, in which capacity he supervised the building of large structures from Maine to the West Indies. For the last several years he had been with the Merchant Construction Co. at Asheville and supervised the construction of many hospitals and other buildings there.

Frank M. Gifford, 55, president and general manager of the J. W. Bishop Construction Co., Worcester, Mass., died Dec. 10. He worked for the construction company as a civil engineer before becoming president.

Harry Clinton Parsons, 73, retired building contractor of Louisville, Ky., died Dec. 11 at Miami, Fla.

G. Franklin Hooker, 68, city engineer of Cambridge, Mass., for 14 years, died Dec. 12. He was a graduate of Rindge Technical School and studied engineering at the Lawrence Scientific School.

John W. Egan, 64, Akron, Ohio, engineer and founder of the John W. Egan & Sons Co., construction engineers, died Dec. 12. Prior to his forming his own company Egan was employed by a number of Akron engineering companies and had charge of the construction of many of that city's largest business structures.

MAJOR MEETINGS

American Society of Civil Engineers, annual meeting, Commodore Hotel, New York, N. Y., Jan. 15-8.

Associated General Contractors, annual convention, Stevens Hotel, Chicago, Ill., Jan. 27-30.

National Crushed Stone Association, annual meeting, Edgewater Beach Hotel, Chicago, Ill., Jan. 27-29.

Associated Equipment Distributors, 28th annual meeting, Edgewater Beach Hotel, Chicago, Ill., Feb. 13-15, 1947.

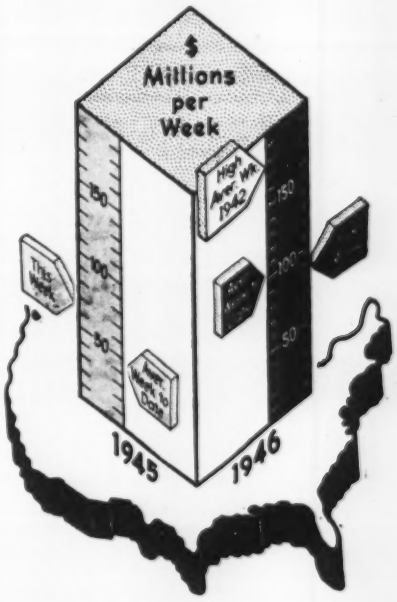
THE COVER PICTURE

The Bluff Creek plant of the Oklahoma City, Okla., water system now ready for operation, will provide 15 mgd. additional water supply to the fast-growing city. Located on a tributary to the Cimarron River, the plant and reservoir will supplement existing supplies drawn from the North Canadian River.

Designed to permit future expansion to a 30 mgd. capacity with a minimum of additional construction (*ENR* May 2, vol. p. 715) the plant includes low-lift pumping arrangements to accommodate a 40-ft. variation in lake level. The general contract for construction was held by the Harmon Construction Co., of Oklahoma City.

Aerial Photo Service photo from Chicago Bridge and Iron Co.

CONSTRUCTION ACTIVITY



As Reported this week to... *Engineering News-Record*

CONTRACT VOLUME

	Continental U. S. Only (Thousands of Dollars)		
	Week of Dec. 19 1946	Cumulative 1946 (51 wks.)	Cumulative 1945 (51 wks.)
Federal	$2,776	$622,478	$743,094
State & Mun.	37,219	1,411,065	393,231
Total Public.	$39,995	$2,033,543	$1,136,325
Total Private	46,197	3,132,411	1,126,825
U. S. Total..	**$86,192**	**$5,165,954**	**$2,263,150**

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

	Dollar Volume (Thousands)		
Type of Work	This Week	Cumulative 1946 (51 wks.)	Cumulative 1945 (51 wks.)
Waterworks	$2,134	$108,465	$60,868
Sewerage	1,803	112,999	34,421
Bridges	1,440	126,947	46,925
Highways	15,039	764,998	226,038
Earthwork, Waterways	1,531	350,912	56,357
Buildings, Public	12,879	413,573	462,692
Industrial	33,743	1,100,443	630,704
Commercial ..	9,469	1,834,409	374,943
Unclassified	8,154	353,208	370,202

NOTE: Minimum size projects included are: Waterworks and waterway projects, $22,500; other public works, $40,000; industrial buildings, $55,000; other buildings, $205,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1946 (51 wks.)	Cumulative 1945 (51 wks.)
NON-FEDERAL	$1,695,379	$733,888
Corporate Securities	661,358	191,111
State and Municipal	809,021	379,177
RFC Loans	.....	24,600
REA Loans	.....	60,000
Fed. Aid Highway.	225,000	79,000
FEDERAL	1,672,982	1,049,898
Total Capital.....	**$3,368,361**	**$1,783,786**

ENR INDEX NUMBERS

Index Base=100		1913	1926
Construction Cost..	Dec. '46	368.10	176.95
Building Cost	Dec. '46	278.49	150.54
Volume	Nov. '46	164	72

CONSTRUCTION REPORTS

Bids Asked — Low Bidders — Contracts Awarded

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager *J. A. MAHONEY, Reports* *J. V. McEWEN, M. R. ROESSLER, Statistics*

WATER SUPPLY

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked December 28

O., Reading—City, booster station and erecting elevated tank, water supply, Contr. 2. CD 8/3/45—ENR 8/23/45.

Bids Asked About January 1

Tex., Burnet—City, WW sys. imprvs., mains, concrete storage, reservoir, etc. **$37,920.** Julian Montgomery, Littlefield Bldg., Austin, engr.

Bids Asked January 13

Calif., Hillsborough—City, City Hall, 3 water reservoirs. $40,000. E. P. Wilsey, City Hall, city engr.

Bids Asked

Tex., Baytown—Harris Co. Water Control & Imprvt. Dist. 7, water imprvs., distr. lines, supply. $80,000. CD 10/29—ENR 10/31.

LOW BIDDERS

Ill., Meredosia—City, City Hall, Dec. 9, WW sys., from Rees Constr. Co., 517½ Kentucky St., Quincy. **$74,416.** CD 11/18—ENR 11/21.

Ill., Woodstock—City, Dec. 6, del., erecting 6,000 kw. turbine generator, from De Laval Steam Turbine Co., 122 S. Michigan Ave., Chicago, **$171,765**; 8,000 sq. ft. and 10,000 sq. ft. condensers, from Condenser Service & Eng. Co., 612 N. Michigan Ave., Chicago. **$42,200.** and **$49,200**, respectively.

Ind., Portland—Bd. P. Wks., Portland, rejected bids Oct. 28, imprv. WW. Will readvertise. CD 10/21.

Mass., Boston—Commonwealth of Mass., Metropolitan Dist. Comn., Water Div., 20 Somerset St., Dec. 5, **3,500 ft. 6- to 10-in.** cement lined c.i. water pipes, from Earl M. Carriere, Whitford St., Roslindale. **$58,530.** CD 11/20—ENR 11/28.

Mich., Midland—City, furnishing, erecting 500,000 gal. elevated steel tank in connection with Saginaw-Midland water pipeline from Lake Huron, from Pittsburgh-Des Moines Co., Neville Island, Pittsburgh, Pa. **$79,000.** L. R. Howson, consult. engr. CD 8/2—ENR 8/8, under Mich., Saginaw.

N. C., Matthews—Town, W. A. Hood, mayor, Nov. 27, WW sys., Contr. 3, from Myers Constr. Co., Charlotte, N. C., **$39,615***100,000 gal.** or 75,000 gal. tanks, from Chicago Bridge & Iron Co., 332 S. Michigan St., Chicago, Ill., **$18,750** or **$16,685** respectively. Paul M. VanCamp, Southern Pines, engr. CD 11/21—ENR 11/28.

Tenn., Pikeville—City, rejected bids **Dec. 3,** WW sys. L. B. **$143,293.** CD 12/10—ENR 12/12.

Tex., Snyder—City, Nov. 26, rein.-con. reservoir, concrete, brick pumphouse, from Panhandle Constr. Co., Amarillo. **$38,000.**

CONTRACTS AWARDED

Kan., Emporia—City, WW imprvs., 2 steel standpipes, to Chicago Bridge & Iron Co., 332 S. Michigan St., Chicago, Ill., **$102,940; pump.** station, equip., to H & H Eng. Service, BMA Bldg., Kansas City, Mo., **$16,790.** Bids 11/26. CD 4/18—ENR 5/2.

Md., Baltimore—Morgan State College, Hillen Rd. and Arlington Ave., dining hall, to Mullan Contg. Co., 3945 Greenmount Ave. **$499,980.** CD 11/6—ENR 11/14.

N. Y., New York—Comr. Water Supply, Gas & Electricity, Municipal Bldg. Zone 7, furnishing, del. laying steel and c.i. watermains, appurtenances in Rockaway Blvd., Queens Boro, to Tufano Contg. Corp., 168-22 91 Ave., Jamaica. **$727,458.** CD 10/21—ENR 10/24, under LB.

O., Cleveland—City, 9,500 ft. 30 in. watermain in E. 37 St., valves, valve boxes, connections and appurtenances, etc., to Kalill Co., 4161 W. 150 St. **$300,961.** J. Wenrich, city engr. CD 12/10/43—ENR 12/16/43.

Tex., Dallas—Dallas Home Builders Assn., G. A. Godfrey, 9206 W. Lake Highland Dr., c. i. water lines. Owner builds. **$32,000.** CD 3/28—ENR 4/4.

Tex., Mesquite—City, N. E. Shands, mayor, c.i. water lines to industrial area. Owner builds. Approx. **$25,000.** CD 3/21—ENR 4/4.

Utah, Provo—City, c/o I. G. Bench, city recdr., 17,210 lin. ft. 48 in. and 1,160 ft. 20 in. concrete pipeline, 2 weir houses, to Utah-Idaho Concrete Pipe Co., Provo, **$301,842.** Est. $300,000. Bids 11/26. CD 11/8—ENR 11/14.

SEWERS, WASTE DISPOSAL

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked December 27

N. Y., Kew Gardens—President Queens Boro, Boro Hall, 120-55 Queens Blvd., Zone 15, storm sewer Avery Ave., along easterly boundary Flushing Meadow Park to 131 St. to Avery Ave. to Lawrence St.; storm and sanitary trunk sewers in park land along Creedmoor branch L.I.R.R. from Lawrence St. to Utopia Pkwy.; Main St. northerly to Crommelin Ave. and Main St. and storm sewer southerly from storm trunk sewer to Main St. and Peck Ave.; storm sewer from storm trunk sewer and at right angles to same at Byrd St. southerly to 56 Ave. and 142 St.; 146 St. from storm trunk sewer southerly to 56 Rd.; 150 St. from storm trunk sewer to North Hempstead Turnpike; sanitary sewer southerly from sanitary trunk sewer to Peck Ave., storm and sanitary sewers northerly to Quince Ave. and Kissena Blvd.; sanitary sewer in 153 St.; storm sewer Kissena and Parsons Blvds., Fresh Meadow Lane; storm and sanitary sewers in park land from storm and sanitary trunk sewers northerly to Dahlia and Crommelin Aves.; sanitary sewer in 164 St.; storm sewer in park land from storm trunk sewer northerly to 168 St. and Underhill Ave., all foregoing 3rd Ward; sanitary sewer, appurtenances in Raywick St.; Anderson Rd., Sidway Pl.; 64 and Braddock Aves.; temporary sewer 76 Ave., 3rd Ward; sanitary sewer 168 Pl., 4th Ward; combined sewer, appurtenances in 137 and 133 Aves., Francis Lewis Blvd., and Laurelton Pkwy., 4th Ward; storm sewer (3rd barrel) Flushing Meadow Park, 3rd Ward; receiving basins in northwest and southwest corners Burns St. and Yellowstone Blvd., Clyde St. and Yellowstone Blvd., 2nd Ward; combined sewer 164 St., 3rd Ward; sanitary sewer 154, 172 and 173 Sts., 4th Ward; CD 8/30/45—ENR 9/7/44, 9/20/45. CD 12/12—ENR 12/19.

Bids Asked December 30

Md., Salisbury—Mayor and Council, Dpt. P. Wks., City Hall, 18,000 lin. ft. 6- to 10-in. sanitary sewers, Contrs. 5-45-S and 8-46-S. Clarke Gardner, City Hall, city engr.

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks $22,500; other public works $40,000; industrial buildings $55,000; other buildings $205,000.

Classes of Construction

(Name in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.;

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

† Federal Government
★ Project of $1,000,000 or over.
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

Bids Asked January 7

Tex., Baytown—Harris Co. Water Control & Imprvt. Dist. 7, A. H. Fortney, pres., sewer and water imprvs. $70,000. CD 8/23/45—ENR 9/6/45.

Tex., Canadian—City, sewage disposal plant, sewer extens. $100,000. Plans deposit $15. J. E. Ward, 545 Allison-Duncan Bldg., Wichita Falls, engr.

Bids Asked January 8

Mich., Saginaw—Saginaw Co. Drain Comn., Saginaw, storm water pump. station and gage 1 and outlet exten. drain. $150,000. Plans deposit $10. Spicer Eng. Co. 404½ Court St., engr.

Wash., Bremerton—City, City Hall, sewer in Capitol Hill dist. $70,000. Plans deposit $10. CD 4/12/45—ENR 5/3/45.

Bids Asked January 21

★**Kan., Olathe**—Johnson Co., L. White, Olathe, sewage disposal plant, $800,000; and sanitary sewers. $500,000. Black & Veatch, 4706 Broadway, Kansas City, Mo., engrs. CD 12/18/44—ENR 12/28/44.

LOW BIDDERS

★**Calif., Los Angeles**—City, City Hall, Dec. 11, headworks structure at Hyperion, from Guy F. Atkinson Co., 22233 S. Santa Fe Ave., Long Beach. **$1,374,804.**

Ga., Albany—City, Dec. 10, sanitary sewerage sys., Div. 2, from Blythe Bros. Co., 424 S. Brevard St., Charlotte, N. C. **$83,820.** CD 11/20—ENR 11/28.

La., New Orleans—New Orleans Sewerage & Water Bd., 526 Carondelet St., Dec. 5, rein.-con. drainage pipelines, Milne and Harrison Canals. Contrs. 228D, 229D, 230D and 231D, from Boh Bros. Constr. Co., 2400 Cypress St. **$382,281.** Est. $251,800. CD 11/20—ENR 11/28, under Water Supply.

★**N. Y., Kew Gardens**—President Queens Boro, 120-55 Queens Blvd., Zone 15, rejected bids Nov. 26, sewer Avery Ave., Contr. 1, L.B. **$2,234,156**; Avery Ave., Contr. 2, L.B. **$2,034,852**; 137 Ave., Contr. 10, L.B. **$1,687,234**; Avery Ave., Contr. 3, L.B. **$2,426,115.** CD 12/2—ENR 12/5, under LB.

N. Y., New York—Dpt. P. Wks., Municipal Bldg., New York, Zone 7, Contr. R-10, sludge pumps and ventilating sys, and Contr. R-11, electrical work for pumps, etc., from Charles Michaels, Inc., 116 Nassau St., Brooklyn. **$97,252.** CD 12/2—ENR 12/5.

Tex., Goose Creek—City, C. Q. Alexander, mayor, rejected bids Nov. 25, storm sewer imprvs. **$100,000.** CD 10/29—ENR 10/31.

Va., Norfolk—Hampton Roads Sanitation Dist. Comn., Flatiron Bldg., 24- to 60-in. trunk sewers, Sects. 1 and 3, from A. Stanley Mundy, Glasgow St. and Belt Line RR., Portsmouth, **$376,687** and **$70,285** respectively; Sect. 2 from United Foundations, Union, N. J. **$150,855.** Est. $660,000. Aldrich & Buck, 112 E. 19 St. New York, N. Y., engrs. and archts.

Wash., Sunnyside—City, City Hall, cancelled bids to have been opened Dec. 6, 14,900 ft. 8- to 24-in. concrete or vitrified sewers. **$140,000.** CD 11/22—ENR 11/28.

Wis., Milwaukee—City, Dec. 6, sewer constr. easement in Jackson Park, from Werner Co., 9713 Harding Blvd., Wauwatosa, Zone 3, **$65,340***W.** Glendale Ave., from H. Hohensee Constr. Co., 2802 S. 15 St., Zone 7, **$51,799***** relining sewer in S. 38 St., from Otto Seefeld, 5101 W. State St., Zone 8, **$28,079.**

CONTRACTS AWARDED

Colo., Colorado Springs—City, sanitary sewers, incl. vitr. clay pipe, manholes and laterals, to Schwartz Constr. Co., Colorado Springs. **$88,893.** Awarded 12/2. CD 8/29/45—ENR 9/6/45.

Ill., Spring Valley—City, City Hall, contract cancelled sanitary sewer extens. Units 1, 2, 3, 5, C. A. **$75,654.** CD 10/16—ENR 10/24, under CA.

Tex., Dallas—Dallas Home Builders Assn., c/o G. A. Godfrey, 9206 W. Lake Highland Dr., sanitary sewers. Owner builds. **$45,000.** CD 3/29—ENR 4/4.

BRIDGES

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked December 30

Ind., Madison—Dpt. Conservation, J. Nigh, dir., State Library Bldg., Indianapolis, 1 span.

BRIDGES (Bids Asked, Cont'd.)

130 ft. rein.-con. open spandrel arch bridge over Clifty Creek at Clifty Falls State Park. $70,000. Plans deposit $10.

Bids Asked January 15

Mich., Niles—City, at office B. Luth, city clk., removing, disposing present 2 span 280 ft. steel truss bridge, and constructing rein.-con., steel Broadway Bridge, 2 rein.-con. abutments and 4 concrete piers over St. Joseph River. Plans deposit $25. V. N. Taggett, city engr.

LOW BIDDERS

Missouri—State Hy. Dpt., Jefferson City, Dec. 3, one 100ft. and one 40ft. rein.-con. deck girder span bridge on Madison Co., from Porter DeWitt Constr. Co., Poplar Bluff. $47,578. CD 11/13—ENR 11/31.

Ohio—State Hy. Dpt., Columbus, Dec. 10, bridges, 0.4 mi. Mercer Co., from N. A. Sunday & Sons, Antwerp. $61,187. Est. $79,950. CD 12/3—ENR 12/5.

South Dakota—State Hy. Dpt., Pierre, Dec. 10, 1 triple 8x3x84 ft. rein.-con. box culvert and one 157 ft. rein.-con. viaduct, McCook Co., from Dave Gustafson & Co., Inc., 500 E. 6 St., Sioux Falls. $39,793. CD 12/3.

Tennessee—State Hy. Dpt., Nashville, Dec. 6, bridges, 5.32 mi. Knox Co., from Garrett & Farris Co., Birmingham, Ala., $155,619*** Shelby Co., from Gregory Barr Co., Memphis, $52,934***0.18 mi. Marshall Co., from Marion Constr. Co., Curtiswood Lane, Nashville, $31,019. CD 11/21—ENR 11/28.

†**Tennessee**—U. S. Eng., U. S. Courthouse, Nashville, Dec. 10, substructure Sligo Bridge over Caney Fork River on Hy. 26, De Kalb Co., from J. M. Hickman, Harriman. $351,188. CD 11/14—ENR 11/21.

STREETS AND ROADS

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked December 30

Ontario—Dpt. Hys., J. D. Millar, deputy minister, Toronto, revised location of highway and railway at Des Joachims, 23 mi. grading and structures. About $230,000. C. Tackaberry, North Bay, engr. CD 12/12.

Bids Asked January 7

†**Virginia**—U. S. Eng., Fort Norfolk, Norfolk, Zone 1, constructing Access Hy. from U. S. Hy. 58 to Dam Site, Buggs Island Reservoir, Mecklenburg Co., Inv. 44-110-47-57.

Bids Asked January 9

California—State Div. Hys., State Bldg., Los Angeles, grading, concrete paving and plant mix surfacing 1.2 mi. 4 St. and Adams Ave. between Main St. and Imperial Ave., El Centro. G. T. McCoy, Sacramento, state hy. engr.

LOW BIDDERS

★**Indiana**—State Hy. Comn., Indianapolis, from Rock Roads Constr. Co., 4915 Rogers Ave., Chicago, Ill., imprv. 13.72 mi. Fountain Co., $345,574, est. $377,69; 13.18 mi. Lake and Porter Counties, $204,867, est. $259,443; 8.71 mi. LaPorte and Starke Counties, $217,331, est. $242,933***from John Dehner, Inc., 2106 Clark St., Ft. Wayne, 6.67 mi. Benton Co., $163,237, est. $116,228; 4.73 mi. Madison and Grant Counties, $72,103, est. $87,772; 13.69 mi. Wabash Co., $200,596, est. $279,581*** from L. P. Gavett, 500 Shepherd Ave., Lockland, O., 9.63 mi. Rush Co., $148,552, est. $178,006; 12.36 mi. Jennings and Ripley Counties, $293,204, est. $326,875***from Breslin Constr. Co., 1801 S. Brook St., Louisville, Ky., 1.1 mi. Battholomew, Jackson and Floyd Counties, $140,622, est. $147,365; 10.05 mi. Posey Co., $169,737, est. $186,375***from Brooks Constr Co., Barthold St., Ft. Wayne, 9.45 mi. Steuben Co., $194,131, est. $240,617*** from Hipskind Drainage Co., 1725 Winter St., Ft. Wayne, 16.06 mi. Adams and Jay Counties, $401,692, est. $467,030***from Payne & Dolan of Wisconsin, 735 N. Water St., Milwaukee, Wis., 11.15 mi. Orange Co., $296,-938, est. $318,541***from Rieth-Riley Constr. Co., 311 W. Monroe St., Goshen, 10.1 mi. St. Joseph Co., $222,057, est. $249,906. CD 11/27—ENR 12/5.

La., DeQuincy—Town, Dec. 3, asphalt street surfacing, concrete curbing, guttering, etc., various streets, from T. L. James & Co., Inc., Ruston. $145,639. CD 11/15—ENR 11/21.

Missouri—State Hy. Dpt., Jefferson City, Dec. 3, from Porter De Witt Constr. Co., Poplar Bluffs, imprv. 4.16 mi. Route 67-Proj. F.A. 101-B (7), $390,545; 1.4397 mi. Route 67-Proj. F.A. 101-B (5), $89,010; 3.939 mi. Route 67-Proj.-F.A. 101B (4), $332,262, all foregoing Madison Co.; 1.081 mi. Butler Co., $81,-927***from O'Dell & Riney Constr. Co., Hannibal, 2.731 mi. Route 21-Proj. F 375 (5) Sect. B, $123,924; 4.165 mi. Route 21 TR-Proj. 375 (5) Sect. A, $182,490, both Jefferson Co.; 4.104 mi. Madison Co., $50,683; 3.388 mi. Iron Co., $82,734***from Koss Constr. Co., 205 Old Colony Bldg., Des Moines, Ia., 4.676 mi. Route 6-Proj. FI-253 (3) Sect. A, $435,455; 4.939 mi. Route 66-Proj. F.I. 253 (3) Sect. B, $459,956, both Franklin Co.; 0.584 mi. Crawford Co., $46,445***from Midwest Constructors, Poplar Bluffs, 2.822 mi. Route 53-Proj. F-221 (7) Sect. B, $31,150; 3.722 mi. Route 153-Proj. F 221 (7), Sect. A, $131,414, both Dunklin Co. ***from Cameron-Joyce & Co., Keokuk, Ia., 2.88 mi. Madison Co., $322,353***from Otto W. Knutson, 3527 Broadway, Kansas City, Mo., 4.17 mi. St. Clair Co., $42,283***from Everett R. Elsia, Kirksville, 4.833 mi. Knox Co., $43,545***from J. M. Roark & Son, Anderson, 1.64 mi. McDonald Co., $40,961. CD 11/18—E.R 11/31.

New Jersey—State Hy. Dpt., Trenton, Dec. 10, imprv. 4.08 mi. Somerset Co., from Franklin Contg. Co., 12 Central Ave., Newark. $155,373. CD 11/20—ENR 11/28.

Ohio—State Hy. Dpt., Columbus, Dec. 10, imprv. 1.818 mi. Champagn and Union Counties and 1.707 mi. Athens Co., from W. H. Ringwald & Sons Co., 42 E. Second St., Chillicothe, $81,451, est. $72,340 and $220,764, est. $208,150 respectively***2.021 mi. and 0.753 mi. Portage Co., from Kane, O'Horo & Haenny, Inc., 65 Indianaola Ave., Youngstown, $111,-513, est. $102,700 and $118,114, est. $112,350 respectively***2.325 mi. Cuyahoga Co., from William L. Schloss Paving Co., Broadway and McCracken Rds., Cleveland, $41,584, est. $45,-900***0.331 mi. Greene Co., from W. E. Hooper, 766 Greenlawn Ave., Columbus, $76,513, est. $78,910***0.246 mi. Tuscarawas Co., from Wendling Bros. Co., 933 N. Wooster Ave., Dover, $49,781, est. $51,970***1.678 mi. Brown Co., from Fenton Constr. Co., Ashland, $43,394, est. $36,200***1.584 mi. Portage and Stark Counties, from General Asphalt Paving Co., Kahler Bldg., Canton, $294,227***Received no bids Dec. 10, imprv. 0.98 mi. Butler Co. CD 12/3—ENR 12/5.

★**South Dakota**—State Hy. Dpt., Pierre, Dec. 10, grading, concrete paving 5.827 mi. McCook Co., from Western Contr. Corp., 400 Warnock Bldg., Sioux City, Ia., $309,019 ***7.91 mi. McCook Co., from C. A. Wagner Constr. Co., 230 S St., Sioux Falls, $471,249*** 2.138 mi. Tripp Co., from H. F. Emme Constr. Co., Rapid City, $56,626***7.563 mi. Meade Co., from Northwestern Eng. Co., Rapid City, 625,500***bituminous treated gravel base with seal 14.44 mi. Walworth Co., from W. H. Noel Co., Jamestown, N. D. $175,277.

★**Tennessee** — State Hy. Dpt., Nashville, from R. B. Tyler Co., 1446 Levering St., Louisville, Ky., imprv. 11.7 mi. Washington and Carter Counties, $372,901; 12.4 mi. Henry Co., $264,656; 10.053 mi. Robertson Co., $71,866***from Eller & Olsen Co., 32 Ave. N. Nashville, 11.4 mi. Davidson Co., $379,900 ***from Stacy Bros. Co., Johnson City, 1.156 mi. McMinn Co., $361,752***from McDade & McDade, Fulton, Ky., 5.132 mi. Weakley Co., $71,915***from Ziegler Constr. Co., American Natl. Bank Bldg., Nashville, 0.482 mi. Coffee Co., $115,588***from C. A. Thompson, Centerville, 7.185 mi. Hardin Co., $194,650*** from Pittman Bros., 537 Plaster Rd., N.E., Atlanta, Ga., 1.094 mi. Hamblen Co., $295,748***from A. B .Long Co., Harriman, 7.243 mi. Hawkins Co., $96,206***from Harrison Constr. Co., Maryville, 7.721 mi. Blount Co., $101,498*** from J. B. Michael & Co., 1021 Heywood St., Memphis, 21.44 mi. Greene Co., $167,301*** from Foster & Creighton Co., American Natl. Bank Bldg., Nashville, 0.633 mi. Blount Co., $174,823***from H. E. Wolfe Constr. Co., Inc., St. Augustine, Fla., 3.348 mi. Overton Co., $138,237***from R. E. Martin Co., Nashville, 3.647 mi. Marion Co., $78,436***from Ralph Rogers Co., 720 Argyle Ave., Nashville, 24.65 mi. Coffee and Cannon Counties, $282,354. CD 11/21—ENR 11/28.

Texas—State Hy. Comn., Austin, rejected bids Nov. 13, imprv. 5.939 mi. Orange Co., L.B. $243,844; 5.021 mi. Newton and Orange Counties, L.B. $218,466. CD 11/18—ENR 11/21, under LB.

CONTRACTS AWARDED

★**New Jersey**—State Hy. Dpt., Trenton, imprv. 1.497 mi. Middlesex Co., to S. J. Groves & Son., P. O. Box 400, Woodbridge. $1,068,254. Bids 12/3. CD 12/6—ENR 12/12, under LB.

Texas—State Hy. Comn., Austin, imprv. 1.173 mi. Harris Co., to Brown & Root, Inc., P. O. Box 3, Houston. $2,053,015. Bids 11/13 CD 11/18—ENR 11/21, under LB.

Tex., Dallas—Dallas Home Builders Assn., c/o G. A. Godfrey, 9206 W. Lake Highland Dr., street imprvs. and paving, own forces. $62,000. CD 3/29—ENR 4/4.

Wyoming—State Hy. Dpt., Cheyenne, grading, draining, miscellaneous work 3.171 mi. Cody-Clark's Fork Rd., FASP S-268-(2), Park Co., to Taggart Constr. Co., Cody. $84,733. Bids 12/5. Rejected bids Dec. 5, imprv. 1.02 mi. Thermopolis-Shoshoni Rd., Fremont Co. L.B. $221,057. A. L. Putnam, Cody, engr.

EARTHWORK, WATERWAYS

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked December 24

Mass., Sandwich—Commonwealth of Mass., Bd. P. Wks., J. F. Cairnes, comr., 100 Nashua St., Boston, 3 stone jetties, Spring Hill Beach.

Bids Asked December 30

†**La., Shreveport**—U. S. Eng., foot of Prytania St., New Orleans, approx. 8,750 lin. ft. bank protection along right bank of Red River, Inv. No. W-16-047-47-107.

Bids Asked January 3

†**Montana**—Bureau Reclamation, P.O. Box 710, Kalispell, exploration tunnels, Hungry Horse dam site, Hungry Horse Proj., Spec. 1593. W. R. Young, ch. engr.

Bids Asked January 6

†**Missouri**—U. S. Eng., P.O. Box 97, Memphis, 1, Tenn., approx. 875,000 cu. yd. earthwork, Elk Chute Drainage Dist., St. Francis Basin, in Rives and Huckin, Serial No. 40-041-47-63. CD 8/13—ENR 8/22.

†**Wyoming**—Bureau Reclamation, Cody, earthwork and structures, Ralston lateral, Station 0 plus 84.12 to Station 230 plus 52.57, and sublaterals, Heart Mountain Div., Shoshone Proj., Spec. 1590.

Bids Asked January 7

†**Louisiana**—U. S. Eng., foot of Prytania St., New Orleans, Zone 9, rein.-con. Berwick Floodwall with timber bearing piles and steel pile cut off wall, etc., St. Mary's Parish.

Mich., Saginaw—Saginaw Co. Drain Comn., Saginaw, drainage proj., deepening, widening, relocating Gage 1 Drain and Koehler Drain, approx. 61,000 ft. long, dredging, excavating and grading. Approx. $100,000.

†**Virginia**—U. S. Eng., Fort Norfolk, Norfolk, dredging Deep Creek, Warwick Co., Inv. 44-110-47-52.

Bids Asked January 8

†**Tennessee**—U. S. Eng., P.O. Box 97, Memphis, Zone 1, Sect. 2, Wolf River Levee, 59,500 cu. yd. earth work, Serial 40-041-47-64. CD 8/13—ENR 8/22.

B. C., Courtenay—Secy. Dpt. P. Wks., Ottawa, Ont., cedar log crib. About $55,000. Plans deposit $10. R. Blais, c/o owner, engr.

Bids Asked January 10

†**Oregon**—Bureau Reclamation, Bend, earthwork and structures, laterals, M-45, M-48, M-49, M-50, M-51, M-51A, M-51B, M-52, M-53A, M-53B, M-54, M-55, M-56, M-56A, and sublaterals, Deschutes Proj., in vicinity of Madras, Spec. 1589. CD 8/30—ENR 9/5.

Bids Asked January 15

†**Colorado**—Bureau Reclamation, Denver, high pressure gates for outlet works, Enders Dam, Frenchman Cambridge Unit, Nebraska, Missouri Basin Proj., and high pressure gates for penstock gate structure, Estes Power Plant, Colorado-Big Thompson Proj., Spec. 1555. Extended date. CD 11/27—ENR 12/5.

†**Washington**—Bureau Reclamation 7½ Second St., Yakima, earthwork, pipelines, and structures, lateral distr. sys., Pump Area 3, Roza Div., Yakima Proj., Spec. 1592. W. R. Young, ch. engr.

Bids Asked January 16

†**Arizona - California - Nevada** — Bureau Reclamation, Denver, Colo., furnishing, delivering, f.o.b. cars shipping point or f.o.b. cars Coachella, Calif. and El Paso, Tex., one 14x9 ft. 3 in. radial gate and one float-operated radial-gate hoist, for White Water siphon wasteway; one 14x9 ft. 3 in. radial gate and one 5,000 lb. capacity, motor-driven radial-gate hoist for White Water siphon check; two 8x8 ft. 9 in. radial gates and two 5,000 lb. capacity, hand-operated radial-gate hoists, for radial-gate check; one 10x11 ft. radial gate and one 5,000 lb. capacity hand-operated radial-gate hoist, for check and drop lateral turnout, all foregoing for Coachella Canal, and misc. metalwork and float-well equip., for White Water siphon wasteway, All-American Canal System, Boulder Canyon Proj., Spec. 1605. W. R. Young, ch. engr.

†**New Mexico-Texas**—Bureau Reclamation, Denver, Colo., two 21 ft. 7 in x 6 ft. radial gates (river gates) and two 21 ft. 7 in. x 8 ft. 5 in. radial gates (sluice gates), for Mesilla Dam, Rio Grande Proj., Spec. 1605. W. R. Young, ch. engr.

LOW BIDDERS

†**Indiana**—U. S. Eng., 830 W. Broadway, Louisville, 1, Ky., cancelled bids to have been opened Dec. 17 trial erection and painting of movable closure works, Evansville, Ser. No. 15-029-47-23; Jeffersonville, Ser. No. 15-029-47-24, both Ind. Flood Protection. CD 12/10 —ENR 12/12.

†**Louisiana**—U. S. Eng., foot of Prytania St., New Orleans, cancelled bids to have been opened Dec. 20, bank protection Red River, Shreveport, Caddo Parish, Inv. No. W-16-047-47-100.

CONTRACTS AWARDED

†**Arizona** — Bureau Reclamation, Denver, Colo., 25,000 bbl. cement to be used in concrete at Davis Dam now being build across the Colorado River, near Kingman, Spec. 7385, to Monolith Portland Cement Co., 216 W. 7 St., Los Angeles, Calif. $76,250.

†**California** — Bureau Reclamation, Denver, Colo., 60,000 bbl. cement for use in continuing construction Coachella Canal, branch of All

EARTHWORK, WATERWAYS (Contracts Awarded, Cond'r.)

American Canal, Spec. 65003-a-3, to California Portland Cement Co., 601 W. 5 St., Los Angeles. $146,256.

Ia., Garner—Hancock Co., Garner, drainage construction, to Wilbur Nielson, Blencoe. $52,356. Bids 10/3.

La., New Orleans—Levee Comn. of Orleans Levee Dist., 200 Civil Courts Bldg., earth levees on east bank of Mississippi River, Bohemia Spillway, to Sternberg Dredging Co., Pere Marquette Bldg. $89,513. Bids 10/1, awarded 10/22. CD 9/16—ENR 9/19.

Ont., Toronto—City, retaining wall, Humber Blvd., to Russell Constr. Co. Ltd., Harbor Comn. Bldg. About $25,000.

★**Que., St. Clothilde**—Dpt. Rds., Quebec City, drainage work, day labor. About $2,000,000.

AIRPORTS & AIRBASES

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Tex., Dallas—AIRPORT—J. W. Marshall & Otto W. Vehle, Buckner Blvd. and Lake June Rd., airport, hangar, fueling sys., service shop, runways, grounds development, etc. on 180 acre field. $250,000. CD 4/8—ENR 4/18.

CONTRACTS AWARDED

N. J., Ocean City—AIRPORT—Seacoast Airlanes, Inc., Ocean City, airport addns., imprvs. incl. hangar, separate contracts. Over $40,000.

PUBLIC BUILDINGS

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked December 30

Wash., Yakima —Yakima Co., Courthouse, hospital addn. $279,185. Plans deposit $50. J. W. Maloney, Larson Bldg., archt. CD 8/16—ENR 8/22.

Bids Asked January 6

N. Y., New York—Bd. Educ., 49 Flatbush Ave., Brooklyn, plumbing and drainage of new addns. to P. S. 106, St. Raymonds Ave. from Odell St. to Olmstead Ave., Bronx Boro. Plans deposit $4. Extended date. CD 11/25 ENR 11/28.

Bids Asked January 7

Tex., Henrietta — Midway Consolidated School Dist., Paul Reeves, pres., 1 story, 56x238 ft. masonry school, containing 12 classrooms, study hall, combination auditorium and gymnasium. $250,000. Consolidated Architects and Engineers, Fort Worth Natl. Bank Bldg., Fort Worth, engrs. and archts.

†**Virginia**—U. S. Eng., Fort Norfolk, Norfolk, Zone 1, constructing Government Construction Camp, Bugga Island Proj., Mecklenburg Co., Inv. 44-110-47-56.

Bids Asked January 10

Tenn., Clarksville—State Purchasing Dpt., 404 State Office Bldg., Nashville, repairing bldgs. of Austin Peay College. Extended date. CD 12/4.

Bids Asked January 14

†**Washington** — Bureau Reclamation, 7½ Second St., Yakima, manifolds, discharge pipelines and outlet structures for 16 pump plants, Roza Div., Yakima Proj., Spec. 1588.

Bids Asked January 15

†**Washington**—Bureau Reclamation, Denver, Colo., furnishing, del. f.o.b. cars shipping point, one fire door for 230 k.v. left switchyard, oil house addn.; or f.o.b. cars Almira, hollow metal doors and the 115-k.v. left switchyard, transformer vault LN- addn., for Grand Coulee Power Plant, Columbia Basin Proj., Spec. 1604.

Bids Asked January 20

†**Washington**—Bureau Reclamation, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Almira, one load recording equip. for Grand Coulee Power Plant, Columbia Basin Proj., Spec. 1606. W. R. Young, ch. engr.

LOW BIDDERS

★**Ill., Urbana** — University of Illinois, Urbana, Dec. 6, womans residence hall, from Warner Constr. Co., 173 W. Madison St., Chicago. $1,820,000. CD 11/14—ENR 11/21.

Minn., Deer River—State, Dpt. Admin., 19 State Capitol, St. Paul, rejected bids Oct. 24, general contract wood processing plant for Iron Range Resources & Rehabilitation Dpt., St. Paul. L. B. $124,066. CD 10/10—ENR 10/17.

Miss., Tylertown—City, c/o mayor, Dec. 3, garment plant, from G. C. Whitaker, Tylertown. $169,900. Est. $100,000. CD 11/20.

Mo., Columbia — Curators University of Missouri, J. Hall, secy., Dec. 5, 3 story, bsmnt. brick, rein.-con., stone west dormitory bldg., from John Epple Constr. Co., 401 S. 6 St. $680,000. CD 11/20—ENR 11/28.

†**O., Cleveland**—National Advisory Com. for Aeronautics, Cleveland Municipal Airport, project cancelled, cafeteria addns., alterations in Engine Research Laboratory. L.B. $135,946. Bids 10/10.

Tex., Kermit—Winkler Co., J. B. Salmon, judge, hospital bldgs., from J. W. Bateson, 1103 Irwin-Keasler Bldg., Dallas. $491,800.

CONTRACTS AWARDED

†**Arizona** — Bureau Reclamation, Denver, Colo., Items 6, 7, 8, 9, 11 of Schedule 3 and spare parts for 6, 7, 8, 9, 11, eight 115,000 volt and forty-five 15,000 volt disconnecting switches for Phoenix and Tucson Substations, Davis Dam Proj., Arizona-Nevada, Spec. 1211 to Southern States Equip. Corp., Hampton, Ga., $18,582; Schedules 1 and 4, and spare parts for one 15,000 kva. transformer, 4 lightning arresters, to Westinghouse Electric Corp., G. & E. Bldg., Denver, Colo., $69,852. Bids 5/24. CD 5/16.

Calif., Oxnard—Oxnard Housing Auth., moving Navy barracks at Fort Hueneme to Rancho San Miguel, here, and converting to four 100 family housing units, No. Cal-UN-4632, to Paul Spencer Constr. Co., 832 W. 5 St., Los Angeles. Approx. $283,000.

Minn., Austin—City, Bd. Water, Electric, Gas & Power Com., W. D. Dunlap, secy., furnishing, installing substations, power cable and underground ductwork and wiring at municipal power plant, to Batzli Electric Co., 1811 S. 1 St., Minneapolis. $184,700. Bids 12/3. CD 11/21—ENR 11/28.

†**Okla., Muskogee**—P. Bldgs. Admin., 18 and F Sts. N.W., Wash. 25, D. C., remodeling Railway Exchange Bldg., Proj. Neg. WAIPB-5726, to Ditmars-Dickmann Constr. Co., 804 Barnes Bldg. $335,000.

Pa., Morrisville—Penn. Dpt. Property & Supplies, Harrisburg, and State Navigation Comn., Bourse Bldg., Phila., Navigation School, to Henry E. Baton, Inc., 1717 Sansom St., Phila. $577,510. CD 11/25—ENR 11/28, under LB.

S. D., Elk Point—City, municipal power plant addn., to F. P. Sulzbach, 1706 Rebecca St., Sioux City, Ia., $25,580; engine with generator, to Enterprise Eng. & Foundry Co., 18 and Florida Sts., San Francisco, Calif., $92,500. Bids 11/19. Fulton & Cramer, Trust Bldg., Lincoln, Neb., engrs.

Wash., Seattle—University of Washington, 1030 Henry Bldg., 4 and Union Sts., Zone 1, general contract classroom bldg., to Strand & Sons, 3939 University Way, Zone 5, $510,000***mechanical work, to University Plumbing & Heating Co., 3941 University Way, Zone 5, $119,100***electrical work to Northwest Electric Co., Inc., 420 Yale Ave. N., $29,959. Grand total $658,695. CD 12/10 under L.B.

†**Wyoming**—Bureau Reclamation, Denver, Colo., three 13,333 k.v.a. transformers for Kortes Power plant, Spec. 1431, to Pennsylvania Transformer Co., 808 Ridge Ave., Pittsburgh, Pa. $127,174. Awarded 10/23.

Que., Three Rivers — Housing Enterprises (Montreal) Ltd., Sun Life Bldg., Montreal, 100 dwellings, Laviolette St., to Joseph Renaud, Ltd., 145 Laviolette St. About $600,000. J. L. Caron, 302 Bonaventure St., archt. CD 9/27—ENR 10/17.

COMMERCIAL BUILDINGS

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked December 30

O., Massillon—Hotel Massillon Co., Massillon, 6 story, bsmnt., 60x177 ft., brick, steel, concrete hotel, Lincolnway and Conrad Ave. Albright & Wilhelmy, Massillon, archts.

★**Wash., Yakima**—Yakima Valley Memorial Hospital Assn., Holtzinger Bldg., 5 story, 170x190 ft., rein.-con. hospital with powerhouse. $1,250,000. Extended date. CD 11/19—ENR 11/21.

Bids Asked

Pa., Phila.—Horn & Hardart Baking Co., 208 S. Warnock St., restaurant addns., alterations, 221, 225 S. Broad St. Over $205,000. Ralph B. Bencker, 1601 Chestnut St., archt. CD 1/23—ENR 1/31.

SOON LETS CONTRACT

Man., Winnipeg—Green, Blankstein & Russell, archts., 310 Times Bldg., soon let contract 2 story, bsmnt., brick, clinic bldg., Memorial Blvd. and St. Mary's Ave. for Mall Medical Holding Co. Ltd., c/o architects. About $225,000.

LOW BIDDERS

N. Y., Rego Park—Jewish Center of Rego Park, Inc., 63-51 Wetherole St., rejected bids Oct. 21, temple, school and recreation center. $400,000. Revised plans under way. CD 10/18—ENR 10/24.

Tex., San Antonio—Harry M. Highstone, 1019 San Pedro St., project indefinitely postponed 30 frame, stucco dwellings. $225,000. CD 10/2—ENR 10/10.

CONTRACTS AWARDED

Calif., Arcadia—Development Engineers, Inc., 2357 W. Washington Blvd., Los Angeles, thirty-two 5 and 6 room frame, stucco dwellings in 2400 and 2500 blocks in Treelane and Fairgreen Sts., and in 600 block Jeffries Ave. Owner builds. Approx. $205,000.

Calif., Los Angeles—Advance Development Co., 720 S. Hill St., 102 six-room, frame, stucco dwellings, Ocean Park Ave., west of Centinela Blvd., West Los Angeles. Owner builds. Over $500,000. G. Ain, 1226 Wilshire Blvd., archt.

Calif., Van Nuys—Burco, Inc., 7462 Lankershim Blvd., North Hollywood, 87 six room frame, stucco dwellings, 7200 and 7300 blocks on Beck, Camellia, Farmdale and Kraft Aves., to Earl White, 3300 Magnolia Blvd., Burbank. $675,000.

Conn., Norwalk—J. A. Henriques, 1412 Myrtle Ave., frame homes. Owner builds. Over $205,000. CD 12/11—ENR 12/19.

Fla., Miami—Ideal Constr. Co., c/o M. M. Vavilotf, 2991 Ponce DeLeon Blvd., Coral Gables, 25 houses in Flagami Subdivision, own forces. $210,000.

Fla., Orlando—Washington Shores, Inc., c/o Rev. Marshall C. Dendy, Orlando, 100 houses in Washington Shore development. Owner builds. $500,000.

Ga., Atlanta—M. S. Benfield, 1412 Epworth St. S.W., 36 frame, houses, Lorenzo Dr., day labor. $225,000.

Ill., Blue Island—Roll & Sonneschein, Blue Island, seventy-five 1 story, brick residences, to Ames Constr. Co., 7416 S. Ingleside Ave., Chicago.

Ill., Chicago—Colonial Village Home Builders, 7558 Irving Park Rd., general contract thirty 2 story, duplex residences, own forces ***masonry work, to Gade & Larsen, 6818 N. Hurlbut St.***plumbing, to Portage Park Plumbing Co., 5833 W. Irving Park Rd. Est. $360,000. B. J. Bruns, 4734 N. Hermitage St., archt.

Md., Pikesville—Lehigh Constr. Co., 1330 N. Charles St., Baltimore, twenty-six 2 story, bsmnt., 28x30 ft. brick, residences, separate contracts. $260,000.

Mich., Detroit—Presentation Church, Detroit, brick, steel, stone, concrete convent, to W. E. Wood Co., 4649 Humboldt Ave., Zone 8. Est. $225,000. Charles J. Sullivan, 2631 Woodward Ave., Zone 1, archt.

Miss., Meridian—W. E. Kimbrough, 2106 8 St., 100 houses, to L. S. Terry, Meridian. Est. $600,000.

Mo., St. Louis—St. Louis University, Rev. P. J. Holleran, pres., 221 N. Grand Blvd., Zone 3, 2 story, bsmnt., rein.-con. brick, classroom bldg., Spring Ave. and W. Pine Blvd., to J. S. Alberici Constr. Co., 1550 Irving Ave., Zone 20. Est. over $350,000. CD 10/9—ENR 10/24.

N. C., Charlotte—Charlotte American Legion Independence Post, 50 houses near Country Club Hills, to J. A. Jones Constr. Co., 209 W. 4 St. Est. over $205,000.

N. J., Gloucester—John H. Harris, 438 Somerset St., residential development, separate contracts. Over $205,000.

N. J., Margate City—Mahoney Constr. Co., 7714 Ventnor Ave., residential development, separate contracts. Over $205,000.

N. J., Sicklerville—Baldino Bros., Sicklerville, residential development separate contracts. Over $205,000.

Pa., Phila. — Ahavath Israel Congregation Oak Lane, Rabbi Arthur Hertzberg, 6735 N. 16 St., synagogue and school to Stone Constr. Co., 29 and Poplar Sts. Over $205,000. Awarded 12/4.

Pa., Phila.—Alma Morlock, 2865 E. Venango St., residential development, separate contracts. Over $205,000.

Pa., Phila.—M. Bernard Cooper, 4226 W. Thompson St., residential development, Upsal St., separate contracts. Over $205,000.

Pa., Phila.—Albert A. Toll, Lincoln Liberty Bldg., apartment development, Walnut Lane, Morton and Herman Sts., separate contracts. Over $205,000. Leopold Hauf Jr., 198 E. Essex Ave., Lansdowne, arch.

Tex., Houston—F. A. Hunter, 5007 Telephone Rd., 38 frame dwellings, force account. $245,000.

Tex., Texarkana—Two States Telephone Co., 800 Texarkana Natl. Bank Bldg., telephone bldg., to Hardy Constr. Co., 202 Texas City Hall. $215,000. CD 11/20—ENR 12/5.

Wash., Spokane—J. L. Cooper, 2600 W. Rockwell St., 26 houses, W. Rockwell St., day labor. $229,000.

INDUSTRIAL BUILDINGS

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked December 30

N. Y., Long Island City—FACTORY—Lion Match Co., 250 W. 57 St. New York, Zone 19, factory alterations. Alexander D. Crosett, 27 William St., New York, Zone 5, engr.

Bids Asked January 15

Mo., St. Louis—BOILER HOUSE, etc.—Masonic Home of Missouri, 5321 Delmar Blvd., Zone 12, 2 story, 40x84 ft., brick, steel, concrete boiler house and 24x67 ft. coal storage, 5351 Delmar Blvd. Extended date. Wm. B. Ittner, Inc., 408 Bd. Educ. Bldg., 911 Locust St., Zone 1, engr. and archt. CD 11/27—ENR 12/5.

INDUSTRIAL BLDGS. (Bids Asked. Cont'd.)

Bids Asked

Tex., Dallas—COLD STORAGE PLANT—F. A. Kadane, Pure Ice & Cold Storage Co., 2100 Canton St., 3 story, 100x150 ft., brick, rein.-con. cold storage plant, pier fdn. $300,000. CD 11/19—ENR 11/21.

Tex., Harlingen—WAREHOUSE—Consumers Cotton Oil Co., Harlingen, metal-clad warehouse. $70,000.

Que., Rouyn—STORAGE—Dr. G. F. Clark, mechanical supt., c/o Canada Packers Ltd., 2200 St. Clair Ave. W., 1 story, bsmnt., 54x90 ft., rein.-con., brick meat packing and shipping branch, 25x40 ft. attached garage. About $100,000.

SOON LETS CONTRACT

Calif., San Francisco—FACTORY—Cariani Sausage Factory, c/o O. A. Deichmann, archt., 1026 Market St., soon lets contract 2½ story, rein.-con. sausage factory. Over $55,000.

Ia., Hampton—POWER PLANT—Federated Co-operative Assn., Coonley Hotel, soon lets contract power plant near Dinsdale, incl. Sect. 2, power plant and structural work, Sect. 3, mechanical work, Sect. 4, electrical work, Sect. 5, station and power transformers, Sect. 6, well and pump. Stanley Eng. Co., Muscatine, engr. CD 11/2/45—ENR 11/15/45.

Ore., Medford — WAREHOUSE — Crystal Springs Packing Co., 139 S. First St., soon lets contract two 1 story, rein.-con. warehouses for cold storage and fruit packing. $142,000. CD 10/16—ENR 10/31.

Pa., Phila.—MANUFACTURING—Wilson & Co., Snyder Ave. and Swanson St., soon lets contract mfg. bldg. alterations. Over $55,000.

LOW BIDDERS

Tex., Fort Worth—FACTORY—A. Brandt Upholstering Co., 1701 E. Lancaster St., project abandoned factory. $100,000. CD 6/14—ENR 6/27.

Tex., Freer—PLANT—Freer Iron Works, Freer, project abandoned, plant imprvs., expansion. $74,000. CD 2/13—ENR 3/7.

Wash., Longview—STEAM PLANT—Cowlitz Co. Public Utility Dist., 1421—14 Ave., rejected bids Dec. 2, reconstr. steam plant. L.B. $303,329. Est. $200,000. CD 12/9—ENR 12/12.

Tex., McAllen—FACTORY—C. C. Storm, 201 Wildwood Dr. West, San Antonio, received no bids wool insulation mfg. factory. $65,000. CD 8/27—ENR 8/29.

CONTRACTS AWARDED

Calif., Modesto — PLANT — Pacific Grape Products Co., 320 Grand St., Modesto, 1 story, rein.-con. food processing plant, to S. C. Giles & Co., 319 Elks Bldg., Stockton. Est. $65,000. Ellison & King, 1045 Sansome St., San Francisco, engrs.

Calif., Oakland—MOTOR COACH YARD and REPAIR SHOP—Railway Equipment & Realty Co., 1106 Broadway, rein.-con., structural steel frame motor coach yard and repair shop, to Dinwiddie Constr. Co., Crocker Bldg., 620 Market St., San Francisco. Est. $184,000. CD 12/3—ENR 12/19.

Calif., San Francisco—PLANT—Rath Packing Co., 324 Townsend St., rein.-con. packing plant addn., to H. E. Rahlmann, 251 Kearney St. Est. $260,000. J. S. Bartley, c/o owner, ch. engr. CD 12/4—ENR 12/19.

Conn., East Hartford—XRAY LABORATORY— Pratt & Whitney Div., 400 Main St., brick, steel xray laboratory, to Green & Odegard, 119 Ann St., Hartford. Est. $55,000. Albert Kahn, Associated Architects & Engineers, Inc., 345 New Center Bldg., Detroit, Mich., engr.

Conn., East Hartford—BAKERY—First National Stores, Oakland Ave., 4 story, brick, steel bakery addn., to Wadhams & May Co., 15 Lewis St., Hartford. $150,598. Ganteaume & McMullen, 99 Chauncy St., Boston, Mass., archts.

Conn., East Hartford—WAREHOUSE—First National Stores, Oakland Ave., 1 story, brick, concrete warehouse addn., Oakland St., to Wadhams & May Co., 15 Lewis St., Hartford. $74,230. CD 12/4—ENR 12/19.

Conn., Guilford—FACTORY—John Ek Industries, c/o L. F. Caproni, archt., 1221 Chapel St., New Haven, 2 story, 50x100 ft., brick, concrete factory, Boston Post Rd. Owner builds. $55,000.

Conn., Wallingford—FACTORY—American Cyanamid Co., 30 Rockefeller Plaza, New York, N. Y., 3 story, 60x100 ft., rein.-con., hollow tile, steel, factory, S. Cherry St., to Frank P. Sullivan, Inc., 110 Tyler St., New Haven. $187,000. CD 12/5/45—ENR 12/27/45.

Ga., Waycross—PLANT—J. H. Swisher & Son, Inc., 459 E. 16 St., Jacksonville, Fla., cigar mfg. plant, to Waycross Constr. Co., Waycross. $150,000. G. D. Holmes, Jr., 2137 River Rd., Jacksonville, Fla., archt. CD 10/30—ENR 11/7.

Ill., Chicago—FACTORY—Kent Products, 222 W. Monroe St., 1 story, brick, concrete, steel factory, to S. O. Strandberg Co., 134 S. LaSalle St. Est. $200,000. Sidney Finck, 134 N. LaSalle St., archt.

Ill., Pana — CREAMERY — Equity Union Creamery & Produce Co., G. Southwell, (owner) Pana, butter, cheese and milk creamery, to Byers Constr. Co., Pana. $150,000. Awarded about 11/15. McCaslin & Ratchford, Nokomis, engrs. and archts.

Ia., Waterloo—PLANT—Rath Packing Co., Sycamore and Elms Sts., 1 story, 128x240 ft., steel, transite siding, etc. fertilizer plant, to Jens Oleson & Sons Contr. Co., 321 W. 18 St., Waterloo.

Ind., Ft. Wayne—FACTORY—Ft. Wayne Corrugated Paper Co., 2011 E. Pontiac St., 3 story factory, Clinton St. and Douglas Ave. (first half U shaped twin bldg.), to Wermuth, Inc., 1036 St. Mary St. Est. $160,000. Awarded 12/7. A. M. Strauss, 415 Cal-Wayne St., archt.

Kan., Kansas City—SERVICE DEPOT—Massey-Harris Co., 1310 W. 12 St., Kansas City, Kan., general contract service depot, to Winn-Senter Constr. Co., Railway Exchange Bldg., Kansas City, Mo. Est. $55,000. C. E. Keyser, 609 Minnesota St., Kansas City, Kan., archt.

Md., Baltimore—PLANT—McNamara & Co., Clarkson and McComas Sts., 1 story, 86x202 ft. metal, steel, concrete steel tank mfg. plant, separate contracts. $150,000.

Minn., Pine Island — PLANT — Minnesota Cheese Producer's Federation, Pine Island, general contract superstructure 1 story, 50x140 ft., cheese processing plant, to C. Jackson, Zumbrota. $124,000. CD 10/10—ENR 10/31.

Mo., De Soto—PLANT—Missouri Pacific R. R., R. P. Hart, ch. engr., Mo. Pacific Bldg., St. Louis, Zone 3, 100x700 ft., steel, glass and corrugated asbestos car fabricating plant and 200 ft. craneway addn., installing crane, concrete roof slab built-up roof as addn. to car repair shops, own forces. CD 11/20—ENR 12/5.

Mo., Kansas City—POWER PLANT—Kansas City Power & Light Co., c/o J. A. Keith, 1330 Baltimore St., Kansas City, Mo., general contract, power plant alterations, to Long Constr. Co., Rialto Bldg., Kansas City, Mo. Est. $300,000.

Mo., St. Louis—SHOP—All-Die, Inc., 2316 Dickson St., Zone 6, 1 story, 50x105 ft., concrete, rein.-con. tool and die shop, 6009 Manchester Ave., to Alois Bruckmeier, Butler Hill Rd., Box 597, Lemay, St. Louis, Zone 23, R. L. Horst, 6326 Lucille Ave., Zone 20, archt.

Mo., St. Louis—SERVICE STATION—Star Service and Petroleum Co., 6330 Alexander Dr., Zone 5, 1 story, 63x103 ft., brick, rein.-con. service station, gas unit heating, 810 North Skinker Blvd., separate contracts. J. A. Grunik, 6635 Delmar Blvd., University City, Zone 5, archt.

N. J., Clifton — MANUFACTURING — T. Walter Perry, Cherry and Pine Sts., manufacturing bldg. and boiler room, separate contracts. $55,000. G. M. Ewing, Real Estate Trust Bldg., Phila., Pa., archt.

N. J., Trenton—SHOP, etc.—Edward F. Bracker, 1935 Greenwood Ave., shop, store, etc., separate contracts. $60,000.

★**N. Y., Syracuse**—PLANT—Bristol Laboratories, Inc., Chimes Bldg., design and constr. drug mfg. plant, to H. K. Ferguson Co., 19 Rector St. Over $2,000,000.

Pa., Chester — WAREHOUSE — Mackenzie Laboratories, Inc., Front and Yarnall Sts., warehouse, separate contracts. Over $55,000. George S. Idell, 117 S. 17 St., Phila., archt. Charles H. Wolf, 112 S. 16 St., Phila., engr.

Pa., Phila.—WAREHOUSE—Sears Roebuck & Co., Roosevelt Blvd. and Adams Ave., warehouse, Sanger and Langdon Sts., to Irwin & Leighton, 1505 Race St. Over $75,000. The Ballinger Co., 105 S. 12 St., archts.

Pa., Phila.—WAREHOUSE, etc.—J. L. N. Smythe Co., 1600 Callowhill St., warehouse and office bldgs. alterations, addns. to Haverstick-Borthwick Co., 1505 Race St. Over $55,000. Davis, Dunlap & Carver, 1717 Sansom St., archts. Santer & Castor, 1411 Walnut St., engrs. Awarded 11/30.

R. I., Providence — BREWERY — Hanley Brewing Co., 35 Jackson St., 1 story, brick, steel brewery addn., Jackson St., to Theodore I. Ellis, 20 Alfred Stone Rd. Est. $55,000.

R. I., Providence — SERVICE GARAGE — Whitehead Corp., c/o William A. Dykeman, archt., 31 Cornhill St., Boston, Mass., 1 story, 160x300 ft., brick, concrete, steel service garage, Allens Ave., to John Capobianco, 44 School St., Boston, Mass. Est. $110,000.

Tex., Corpus Christi — PLANT — Southern Alkali Corp., Corpus Christi, expansion dry ice mfg. plant, force account. $500,000.

Tex., Dallas—FACTORY—Industrial Investment Co., Gulf States Bldg., venetian blind and window shade mfg. factory, to O'Rourke Constr. Co., 1001 W. Commerce St. Approx. $100,000. Chas. W. Breneman Co., 2508 Commerce St., lessee. F. J. Woerner & Co., 911 Clermont St., archt. CD 12/6.

Tex., Dallas—STORAGE and REPAIR SHOP—Motor Parts, Inc., 2204 Commerce St., motor parts storage and auto service repair shop. Owner builds. $96,000. CD 3/21—ENR 5/2.

Tex., Garwood—DRYER—W. K. Lehrer, Garwood, rice dryer plant, force account. Approx. $150,000. CD 12/6—ENR 12/19.

Tex., Houston — WAREHOUSE — Houston Belting & Supply Co., 1115 Austin St., 1 story, 100x125 ft., steel column, masonry warehouse, to J. W. Landers, 1111 Elberta St. Approx. $55,000. CD 11/8—ENR 11/14.

★**Tex., Houston**—PLANT—Shell Oil Co., Shell Bldg., lubricating oil mfg. plant adjacent to Shell Co. refinery on Ship Channel, to Lumus Co., & M. W. Kellog Co., Mellie Esperson Bldg. Est. $10,000,000. CD 10/17—ENR 10/31.

Tex., Madisonville—PLANT—Jim Standley, Madisonville, food processing and storage plant. Owner builds. Approx. $55,000. CD 8/8—ENR 8/15.

Tex., Wichita Falls — WAREHOUSE and FREIGHT TERMINAL — Central Freight Lines, 303 S. 12 St., Waco, rein.-con., masonry warehouse and freight terminal bldg., loading docks and ramps, to Taylor & Howie, 2204 9 St. $70,000. Harry L. Spicer, Amicable Bldg., Waco, archt.

Tex., Wichita Falls—MILL—Nutrena Mills Co., Wichita Falls, 6 story, 30x40 ft. mill, to J. L. Hair Constr. Co., City Natl. Bank Bldg. $85,000. J. G. Dixon, 913-B Indiana St., archt.

★**Va., Quantico**—POWER PLANT—Virginia Electric & Power Co., 7 and Franklin Sts., Richmond, design and general construction power plant on Potomac River, near here, to Stone & Webster Eng. Corp., 90 Broad St., New York, N. Y. Est. $7,500,000.

Wash., Longview — PLANT — Carney Co., Mankato, Miss., 1 story, 60x315 ft., steel, masonry rock wool mfg. plant., day labor. $200,000. C. Heim, Hotel Monticello, ch. engr.

Wash., Seattle—PLANT—Washington Co-operative Assn., 201 Elliott Ave. W., 2 story, bsmnt., 80x128 ft., rein.-con. food processing plant addn., to John H. Sellen Constr. Co., 228 9 Ave. N. $125,000. S. E. Ivarsson, Skinner Bldg., 5 and Union Sts., Zone 1, engr.

Wis., West De Pere—FACTORY—Nicolet Paper Corp., West De Pere, repairing steel beam factory, to C. R. Meyer & Sons Co., 50 State St., Oshkosh. Est. $70,000.

UNCLASSIFIED

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked After January 1

Texas—RURAL DISTRIBUTION LINES CLEARING, etc.—Deep East Texas Electric Co-operative, San Augustine, clearing and grubbing for 323 mi. rural distr. lines, San Augustine Co. $40,000. CD 6/28—ENR 7/11.

Bids Asked January 8

Ont., Oakville—PIER—Secy. Dpt. P. Wks., Ottawa, reconstructing east pier. About $123,000. Plans deposit $25. R. Blais, c/o owner, engr. CD 4/8—ENR 4/18.

Bids Asked January 9

Ala., Normal—HEATING PLANT—State A & M Institute, Normal, central heating plant. Over $40,000. Plans deposit $25. Extended date. Sizemore & Campbell, 16 S. Hull St., Montgomery, archts. CD 11/22—ENR 11/28.

California—TRAFFIC SIGNAL SYSTEM—State Div. Hy., P. Wks. Bldg., Sacramento, furnishing, installing traffic signal sys. at 13 intersections on Atlantic Ave. between Firestone Blvd. and 52 St., Los Angeles Co. G. T. McCoy, Sacramento, state hy. engr.

Bids Asked January 10

†**Colorado** — TRANSMISSION LINES—Bureau Reclamation, Denver, constructing Brush-Sterling 115 kilovolt and Sterling-Holyoke 69 kilovolt transmission lines, Colorado-Big Thompson Proj., Spec. 1603. W. R. Young, ch. engr.

Bids Asked January 21

†**Montana**—DISCONNECTING SWITCHES, etc.—Bureau Reclamation, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Fallon, two 69,000 volt, 600 ampere, 3 pole, single-throw, manually-gang-operated outdoor-type disconnecting switches with manually-gang-operated grounding blades, for 57 kv. Fallon and Fallon Relift Pumping Plant Transmission line, Fort Peck Proj., Spec. 1599. W. R. Young, ch. engr.

Bids Asked January 22

†**Montana**—DISCONNECTING SWITCH, etc.—Bureau Reclamation, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Savage, one 69,000 volt, 600 ampere, 3-pole, single-throw, manually-gang-operated, outdoor-type disconnecting switch, with manually-gang-operated grounding blades, for Savage Pumping Plant 69 kv Transmission Line, Fort Peck Proj., Spec. 1600. W. R. Young, ch. engr.

CONTRACTS AWARDED

★**Mississippi**—GAS PIPELINES—Tennessee Gas & Transmission Co., Commerce Bldg., Houston, Tex., 23 mi. 26 in. natural gas pipeline loop, near Greenville, to Morrison Bros. Constr. Co., Greenville. $1,2400,000. CD 5/3—ENR 5/30.

★**N. Y., Brooklyn**—SIGNAL EQUIPMENT—Bd. Transportation, 250 Hudson St., New York, Zone 13, signal equip., Contr. S-45 Fulton St. Line, Pitkin Ave. Yard to Emerson-Garden Electric Co., Inc., and L. K. Comstock & Co., Inc., 155 E. 44 St., New York, Zone 17. $1,172,469. CD 12/3—ENR 12/5, under LB.

★**N. Y., New York**—PLATFORM EXTENSIONS—Bd. Transportation, 250 Hudson St., Zone 13, platform extens. 23 to 28 and 33 Sts., Stations Lexington-4th Ave. Line, IRT Div., New York Transit System, to A. A. Johnson and Mason & Hangar, Inc., 500 5 Ave., Zone 18. $3,595,000. CD 12/10—ENR 12/12, under LB.

LAST MINUTE CONSTRUCTION REPORTS

WATER SUPPLY

Additional earlier Construction Reports will be found in the regular section.

BIDS ASKED

Bids Asked December 27

La., Jena—Town, C. Russell, mayor, Jena, water extens., repairing concrete reservoir, etc. Plans deposit $10. J. H. Fourmey, Hammond, engr.

Bids Asked December 30

Wash., Alderwood Manor—Alderwood Water Dist., Alderwood Manor, furnishing 112,000 2- to 8-in. pipe for water sys. Over $22,500.

Bids Asked January 6

Ore., Cottage Grove—City, City Hall, $1,000 ft. 14 in. steel pipe for supply line. $60,000. CD 11/27.

LOW BIDDERS

★**Calif., Oakland**—East Bay Municipal Utility Dist., 512 16 St., Second Mokelumne Aqueduct, Unit B, Spec. LS-73, incl. 32 mi. 67 and 68 in. pipeline from Bixler Station to near Walnut Creek, furnishing lined steel pipe, from Western Pipe & Steel Co., 200 Bush St., San Francisco, **$4,508,532***** installing lined steel pipe or alternate, from P. & J. Artukovich, 13,305 S. San Pedro St., Los Angeles, **$1,962,622***** furnishing, installing rein.-con. pipe, from American Pipe & Constr. Co., 4635 Firestone Blvd., South Gate, **$6,879,950.** CD 11/22—ENR 11/28.

CONTRACTS AWARDED

Tex., Granger—City, C. B. Rogers, mayor, drilling, casing, developing 2,500 ft. water supply well, to J. L. Myers & Son, 5306 Harry Hines Blvd., Dallas. Approx. **$32,500.** Est. $35,000. Bids 12/3. CD 11/26—ENR 12/5.

Ore., Cottage Grove—City, City Hall, 43,000 ft. 14 in. steel pipe for supply line, to Armco Drainage & Metal Products Co., Inc., 2321 S. E. Galdstone St., Portland, **$82,560.** Est. over $22,500. CD 11/27.

SEWERS, WASTE DISPOSAL

Additional earlier Construction Reports will be found in the regular section.

BIDS ASKED

Bids Asked December 26

Tex., Houston—City, storm sewers Calhoun St., S. McGregor St. to Old Spanish Trail. $48,000. J. C. Calhoun, Jr., Houston Merchants Exchange Bldg., consult. engr. CD 10/9—ENR 10/31.

Bids Asked December 27

Tex., Houston—City, c/o M. H. Westerman, secy., 18- to 30-in. storm sewers in Beauchamp St. $42,000. CD 7/31—ENR 8/22.

Bids Asked January 13

Minn., Edina—Village, B. Hawthorne, clk., Storm Sewer 12. $30,000. Plans deposit $10. Bids 11/25 rejected. CD 11/7—ENR 11/14.

Bids Asked January 14

Ill., Knoxville—City, City Hall, sewerage imprvs. and water main extens. Plans deposit $30. Warren & Van Praag, Inc., Standard Office Bldg., Decatur, engr. CD 1/4—ENR 1/1.

LOW BIDDERS

Nev., Reno—City, City Hall, Dec. 9, sanitary sewer lines and imprv. streets in Southridge Estates Imprvt. Dist., from Isbell Constr. Co., 1300 E. 4 St., Reno. **$77,728.** E. C. Frisch, City Hall, engr. CD 12/2.

CONTRACTS AWARDED

Mich., Muskegon—Muskegon Twp., Township Hall, Apple Ave., sewers and watermains, to Chris Nelsen & Sons, 415 E. Hudson St., Royal Oak. **$380,878.** Bids 11/29. CD 11/27—ENR 12/5.

BRIDGES

Additional earlier Construction Reports will be found in the regular section.

BIDS ASKED

Bids Asked December 26

Tex., Houston—City, asphalt paving Southmore St., Scott to Tierwaster Sts., $87,973; Hamilton St., Gray to Leeland St., $65,059; Sampson St., Southmore to North MacGregor Sts., $43,284; Bellaire St., from Brays Bayou to Main St. $279,396; Calhoun St., South MacGregor St. to O. S. T., $87,357; Chartres St. from Gray to Leeland Sts., $68,482; Hutchins St. from Gray to Leeland Sts., $64,615. CD 11/22/44—ENR 12/14/44.

Bids Asked January 3

Washington—State Hy. Dpt., Olympia, removing bridge over Columbia River at Northport, Stevens Co.; concrete piers and treated timber approaches to Grays River bridge near Rosburg, Hy. 12-C, Wahkiakum Co.; 2 rein.-con. continuous girder bridges over a slough and Yakima River, and rein.-con. continuous girder overcrossing, over Primary State Hy. 3, near Selah, Yakima Co. Plans deposit $2 each. C. B. Shain, hy. dir. CD 9/10—ENR 9/12.

Bids Asked January 7

Tex., Harlingen—City, M. F. Runnierk, Jr., mgr., WW sys. imprvs., incl. pump. plant, sedimentation basin, drilling, casing, developing clear water supply well, chemical storage bldg., etc. $35,000. Plans deposit $25. A. Tamm, 216 E. Van Buren St., structural engr. Sigler, Clark & Winston, Wesiaco, mechanical and electrical engrs. CD 11/26—ENR 12/5.

Bids Asked January 10

Connecticut—W. J. Cox, comr. State Hy. Comn., Hartford, 2,448 lin. ft. high level fixed bridge over Connecticut River, Old Lyme and Old Saybrook; adv. ENR 12/19.

LOW BIDDERS

★**California**—State Div. Hys., Sacramento, Dec. 11, bridge and substructures, Kern Co., from Guy F. Atkinson Co., Orange and Railroad Aves., South San Francisco. **$1,096,000.** CD 11/13—ENR 11/14.

Kansas—State Hy. Comn., Howard, rejected bids Dec. 5, imprv. bridges, Franklin Co. L.B. **$4,272.** CD 11/19—ENR 11/21.

Kansas—State Hy. Comn., Norton, rejected bids Nov. 26, 2 bridges in Phillips Co. LB. **$54,055.** CD 11/11—ENR 11/14.

South Carolina—State Hy. Dpt., Columbia, rejected bids Nov. 19, bridges, Berkeley Co. L.B. **$18,386.** CD 11/7—ENR 1/14.

Texas—State Hy. Comn., Austin, Dec. 12, Colorado River Bridge structure, Colorado Co., from Austin Bridge Co., P.O. Box 1590, Dallas. **$157,840.** Received no bids Dec. 12, widening bridge, approach, Harris Co. CD 12/2—ENR 12/5.

Texas—State Hy. Comn., Austin, received no bids Dec. 13, bridge widening, Harris Co., Trinity River Bridge, Chambers Co. CD 12/3 ENR 12/5.

CONTRACTS AWARDED

Kansas—State Hy. Dpt., Junction City, bridge in Geary Co., to Carrothers Constr. Co., Paola. **$198,987.** CD 11/21—ENR 11/28.

N. J., Matawan—New York and Long Branch R. R. c/o Central R. R. of New Jersey, A. M. Zabriskie, ch. engr., Jersey City Terminal, Jersey City, Zone 2, single track trestle across marshes to replace burned out railroad bridge, to J. Rich Steers Co., 17 Battery Pl., New York 4, N. Y.

STREETS AND ROADS

Additional earlier Construction Reports will be found in the regular section.

BIDS ASKED

Bids Asked December 27

Arizona—State Hy. Comn., Pheonix, grading, draining, base material, bituminous surface treatment approx. 10¼ mi. S-114 (8), AFE 6668, Douglas-Safford Hy. W. C. Lebbvre, state hy. engr.

Mo., Clayton (St. Louis 5, P. O.)—St. Louis Co. Court, c/o Maurice Dwyer, clk., Courthouse, St. Louis, Zone 5, bituminous macadam on waterbound macadam paving bituminous combination curbing and guttering Morris Ave., eastern line of Telegraph road to southern line of Arlee Ave., Proj. 1045. R. Jablonsky, Courthouse, Clayton, St. Louis, Zone 5, engr.

Bids Asked January 3

Louisiana—State Hy. Dpt., Baton Rouge, shaping roadway, drainage structures, soil cement base course, bituminous surface treatment (asphalt cement) 1.25 mi. State Route 19, Pollock-Bentley Hy., S. P. 40-02-03, Grant Parish; washed gravel surface course, shaping roadway, 1.5 mi. Lafayette Parish Rd., S. P. 713-00-30, Lafayette Parish.

Washington—State Hy. Dpt., Olympia, clearing, grubbing, grading surfacing 3.68 mi. Woods Creek-Lake Roesiger Rd., 2.4 mi. Staves Corner to Cedarhome Rd., both Snohomish Co.; 3.78 mi. Hy. 9, Clallam and Jefferson Counties; clearing grading 11.78 mi. Hy. 3, Richland Rd. junction to Kiona, Benton Co.; clearing, grubbing, grading, ballasting and surfacing 3.79 mi. Conconully Rd., Okanogan Co. Plans deposit $2 each C. B. Shain, state hy. dir. CD 7/6/45—ENR 8/26/45.

Indiana—State Hy. Comn., J. H. Lauer, chn., Indianapolis, concrete paving 0.469 mi. State Rd. 3, Main St., in Rushville, Rush Co.; 0.512 mi. State Rds. 45 and 56, Dubois Co.; 0.578 mi. State 67, Knox Co.; rein.-con. paving 5.115 mi. Shadeland Ave. from U. S. Rd 40 to 38 St., Marion Co.; 1.014 mi. State Rd. 46 from Washington to Pennsylvania Sts., in Columbus, Bartholomew Co.; rein.-con. paving and concrete paving and widening 1 mi. State Rd. 81, Pike Co.; rein.-con. paving, widening 5.267 mi. State Rd. 13, Kosciusko Co.; surface treated waterbound macadam paving 3.522 mi. State Rd. 64, from north of Eckerty to Taswell, Crawford Co. C. E. Vogelsang, c/o owner, ch. engr.

LOW BIDDERS

Kansas—State Hy. Comn., Atchison rejected bids Dec. 3, imprv. 1.959 mi. Wabaunsee Co., L. B. **$4,899;** 1.499 mi. Wabaunsee Co., L. B. **$14,766.** CD 11/18—ENR 11/21.

Kansas—State Hy. Comn., Norton, rejected bids Nov. 26, imprv. 4.441 mi. Phillips Co. L. B. **$7,229.** CD 11/11—ENR 11/14.

Kansas—State Hy. Comn., Howard, rejected bids Dec. 5, imprv. 3.955 mi. Franklin Co., L. B. **$18,687;** 1.571 mi. Elk Co., L. B. **$2,587;** 3.943 mi. Miami Co., L. B. $12,160; 1.571 mi. Elk Co., L. B. **$15,834.** CD 11/19—ENR 11/21.

Louisiana—State Dpt. Hys., Baton Rouge, Dec. 11, imprv. 1.418 mi. Allen Parish, from W. R. Aldrich & Co., Kalurah University Gardens, Baton Rouge. **$72,217.** CD 11/29—ENR 12/5.

Pennsylvania—State Hy. Dpt., Harrisburg, rejected bids Nov. 8, imprv. 40,866 ft. Mercer and Crawford Counties, L. B. **$876,404;** 1.284 ft. Bucks Co., L. B. **$129,989;** 679 ft. Westmoreland Co., L. B. **$42,197;** 13,180 ft. Elk Co., L. B. **$396,006.** Will readvertise. CD 12/12—ENR 12/14.

Texas—State Hy. Comn., Austin, imprv. 9.444 mi. Crosby Co. from H. E. Williams, P. O. Box 235, Waco, **$87,536,** CD 12/6*** 7.233 Kent Co., from Ernest Loyd, P. O. Box 1120, Fort Worth, **$60,779***** 15.293 mi. Lubbock Co., from Thomas & Ratliff, Rogers, **$102,397***** 11.721 mi. Nueces Co., from Heldenfels Bros., Rockport, **$161,084***** 7.103 mi. Collin Co., from L. H. Lacy & Co., P. O. Box 5726, Dallas, **$120,054***** 11.381 mi. Cooke Co., from L. P. Reed, P. O. Box 425, Meridian, **$194,378***** 9.404 mi. Jefferson Co. from E. W. Hable & Sons, Corsicana, **$257,314***** 6.797 mi. Leon Co., from J. W. Mosley, 518 Resistal Rd., Garland, **$60,889,** CD 12/3—ENR 12/5.

Texas—State Hy. Comn., Austin, Dec. 12, imprv. 3.37 mi. Dallas Co., from Brazos Valley Constr. Co., 258 Majestic Bldg., and J. B. Clardy Constr. Co., 2313 Goldenrod St., Fort Worth, **$672,442***** 9.34 mi. Brazoria Co. and 5.821 mi. Somervell Co., from J. W. Perry, 501 Insurance Bldg., San Antonio, **$128,310** and **$49,448** respectively ******* 8.901 mi. Freestone and Navarro Counties, from E. W. Hable & Sons, Corsicana, **$107,673***** 9.999 mi. Pecos Co., from Henry Thygesen Co., P. O. Box 876, Albuquerque, N. M., **$171,029***** 0.985 mi. Nueces Co., from J. N. Bellinger, Corpus Christi, **$50,758***** 15.044 mi. Johnson and Tarrant Counties, from Wallace & Bowden, 5513 E. Maud Ave., Dallas, **$47,722.** Cancelled bids to have been opened Dec. 12, imprv. 11.020 mi. Taylor and Jones counties. CD 12/2—ENR 12/5.

CONTRACTS AWARDED

Idaho—State Hy. Dpt., Boise, imprv. 4.018 mi. Payette Co., to Triangle Constr. Co., 3507 Crescent Rim Dr., Boise, **$45,275.** Est. $51,741. Bids 12/6. CD 11/26.

Iowa—State Hy. Comn., Ames, imprv. Proj. F-443 -5, Allamakee Co., Rovarud Constr. Co., Spring Grove, Minn. **$128,142.** Bids 11/12, **Awarded 12/12.** CD 11/20—ENR 11/28.

Tex., Rock Springs—City, street paving, improvs., to Swope Bros., 1014 W. Laurel St., San Antonio. **$73,160.** Bids 12/10.

EARTHWORK, WATERWAYS

Additional earlier Construction Reports will be found in the regular section.

BIDS ASKED

Bids Asked December 27

†**Georgia**—U. S. Eng., P. O. Box 915, Augusta, diversion channel for Clark's Dam Hill Proj. CD 12/2—ENR 12/5.

Bids Asked December 31

†**Missouri**—U. S. Eng., P. O. Box 97, Memphis 1, Tenn., 875,000 cu. yd. earthwork, Elk Chute Drainage Dist., St. Francis Basin in Rives and Huckin, Ser. 40-041-47-63. Bid date change. CD 12/11—ENR 12/12.

Bids Asked January 3

Tex., Corpus Christi—City, R. B. Thomas, mgr., Bathing Beach, Bay Front Development, incl. groins, recapping of north and south breakwater, 4 ft. wide, etc. **$175,000.** CD 11/13—ENR 11/28.

EARTHWORK, WATERWAYS (Bids Asked, Cont'd.)

Bids Asked January 21

†**Washington**—Bureau Reclamation, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Sunnyside, 2 turbine-driven pumping units for pumping plant for Pump Area 13, Roza Div., Yakima Proj., Spec. 1613.

Bids Asked January 23

†**Arizona-California**—Bureau Reclamation, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars LCL shipments, Yuma, and car-load shipments, Araby, fabricated structural steel for stubs and anchor bolts and fabricated structural steel for steel structures for Gila Substation, Parker Dam Power Proj., Spec. 1616. W. R. Young, ch. engr.

LOW BIDDERS

†**Georgia**—U. S. Eng., P. O. Box 915, Augusta, Dec. 11, west embankment for main concrete dam, Clarks Hill Dam, from Boyle Constr. Co., Sumter, S. C. **$240,720.** CD 12/2—ENR 12/5.

Kan., Goodland—Bd. Comrs. Sherman Co., Goodland, rejected bids Nov. 7, dam on North Fork, Smoky Hill River, Soldier's Memorial Park, near here. L. B. **$43,003.** Will readvertise. CD 10/1—ENR 10/3.

La., Bossier City—Bossier Levee Dist., Bossier City, cancelled bids to have been opened Dec. 20, 1,500,000 cu. yd. channel excav. for Loggy Bayou Imprvs., Red River Parish. CD 12/10—ENR 12/12.

†**Oklahoma**—Bureau Reclamation, Altus, Dec. 6, earthwork structures, surfacing, Altus Reservoir, Spec. 1510, from Stebbins Constr. Co., 801 N. Lewis Pl., Tulsa. **$137,173.** CD 11/25—ENR 11/28.

Pa., Harrisburg—Pa. Dpt. Property & Supplies, Harrisburg, Dec. 11, South Entrance Retaining Wall for completion of East Facade and Forecourt, Main Capitol Bldg., from C. C. Davis Constr. Co., 213 Walnut St., **$96,870.** Est. $100,000. CD 11/20—ENR 11/28.

CONTRACTS AWARDED

★†**Idaho** — Bureau Reclamation, Customhouse, Denver 2, Colo., equipment for Anderson Ranch Dam, Spec. 1316, to Southwest Welding & Mfg. Co., Alhambra, Calif., **$683,942.** Bids 6/3. CD 7/1—ENR 7/11, under LB.

PUBLIC BUILDINGS

Additional earlier Construction Reports will be found in the regular section.

BIDS ASKED

Bids Asked December 31

Kan., Kansas City—Bd. P. Utilities, G. B. Little, secy., power plant alterations. $100,000. Burns & McDonnell, 107 W. Linwood St., Kansas City, Mo., engrs.

Wash., Seattle—University of Washington, Henry Bldg., 4 and Union Sts., Zone 1, excavation of 160x228 ft. electrical engineering bldg. $800,000. P. Thiry, 1311 3 Ave. Bldg., Zone 1, archt. CD 5/1/45—ENR 6/14/45.

Bids Asked January 7

★**Wash., Selah**—Joint Sanatoria Com. for Grant, Klickatat, Kittitas, Benton, Franklin and Yakima Counties, 6 story, bsmnt., 47x260 ft. and 54x115 ft., rein.-con. hospital. $1,500,000. Plans deposit $50. Extended date. CD 11/7—ENR 11/14.

Bids Asked January 8

†**D. C., Wash.**—U. S. Eng., 1 and Douglas Sts., N. W., Wash. 25, recovery ward, main bldg., Walter Reed General Hospital, Army Medical Center. Serial 49-080-47-6-(1) M (Rev.)

Bids Asked January 13

†**Wyoming**—Bureau Reclamation, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Casper, three 108 in. diam. welded-plate-steel penstocks, etc., for Kortes Power Plant, Kortes Unit, Wyoming, Missouri Basin Proj., Spec. 1611.

Bids Asked January 14

†**Arizona and Nevada**—Bureau Reclamation, Kingman, Ariz., steel penstocks Davis Power Plant, Davis Dam Proj., Spec. 1601.

Bids Asked January 17

†**Arizona-Nevada** — Bureau Reclamation, Denver, Colo., furnishing, del. f.o.b. cars shipping point, Earp, Calif., intermediate grade, billet-steel, bent and straight bars; hard grade, billet-steel, bent and straight bars; hard grade, rail-steel, bent and straight bars, for 230-kv. switchyard, Parker Power Plant, Davis Dam Proj., Spec. 1610. W. R. Young, ch. engr.

Bids Asked January 22

Ia., Waverly—City, R. O. Clark, clk., municipal light and power plant addn., imprvs. $110,000. Stanley Eng. Co., Muscatine, engr. CD 3/28—ENR 4/4.

†**Washington**—Bureau Reclamation Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Odair, 132 main unit trashracks, Part 1, only, for Grand Coulee Dam, Columbia Basin Proj., Spec. 1614.

LOW BIDDERS

Ala., Jacksonville—State Bd. Educ., A. H. Meadows, chn., Montgomery, Dec. 12, Practice School at State Teachers College, from Bateson-Cook, West Point, Ga. **$277,380.** Est. $255,000. CD 11/20—ENR 11/28.

†**Arizona and Nevada**—Bureau Reclamation, Kingman, Ariz., Nov. 25, eight 6 room and twelve 5 room residences, Davis Government Camp, Davis Dam Proj., Spec. 1508, from George B. Thatcher Co., 424 S. Serra Way, San Bernardino, Calif. **$306,857.** CD 10/30—ENR 11/7.

Ill., Chicago—Sanitary Dist., 910 S. Michigan Ave., Dec. 12, Lockport Power House, incl. electrical machinery and equip. and hydraulic turbine, exciter, oil circuit breakers, transformers and switches, from Monroe Electric Co., 157 W. Ontario St. **$512,662.**

Ind., Marion—Bd. School Trustees, C. C. Rhetts, chn., Marion, Dec. 10, 2 story, bsmnt., 80x184 ft. brick, stone, rein.-con., steel school, from J. L. Simmons Co., 710 Union Title Bldg., Indianapolis, **$536,000.** Est. $400,000. CD 11/19—ENR 11/21.

Mo., Columbia — Curators University of Missouri, L. Cowan, secy., Columbia, rejected bids Dec. 13, 3 story, bsmnt., rein.-con., brick, steel, stone west dormitory. L. B. **$660,000.** CD 12/11—ENR 12/19, under LB.

N. Y., Brighton—Bd. Educ., Common School Dist. 7, 909 Landing Rd., Nov. 27, general contract school, from A. Friederich & Sons Co., 710 Lake Ave., Rochester. **$597,295.** CD 11/6—ENR 11/14.

Ore., Portland—Commission Pub. Docks, Dec. 10, cutting, piling, posting under lower level of Municipal Terminal 2, from General Constr. Co., 4850 N. W. Front Ave. **$183,690.** W. Kratt, docks engr. CD 8/17/45—ENR 9/6/45.

Va., Berryville—Town, Nov. 18, Berryville Elementary School, from Blackwell Eng. Co., Warrenton. **$230,000.** Smithey & Boynton, Roanoke, archts.

CONTRACTS AWARDED

Calif., Exeter—Exeter Hospital Assn., Exeter, 1 story, rein.-con., brick veneer hospital, to Taylor & Wheeler, 245 Clinton Ave., Fresno. Est. **$225,000.** Fred L. Swartz & Wm. G. Hyberg, Roswell Bldg., Fresno, archts. CD 3/28.

Ga., Milledgeville—State Dpt. P. Welfare, State Office Bldg., Atlanta, auditorium, Milledgeville State Hospital, to A. Farnell Blair, 215 Church St., Decatur. **$417,209.** Scroggs & Ewing, S. F. C. Bldg., Augusta, archts. CD 11/20.

Ind., Indianapolis—Bd. School Comrs., 150 N. Meridan St., 2 story, bsmnt., brick, stone school, 1115 N. Traub Ave., to Service Constr. Co., 535 Ind. Pythian Bldg. **$312,778.** Awarded 12/11. CD 11/27—ENR 12/5, under LB.

Mo., Columbia—City, Columbia, power plant imprvs., to J. E. Hathman, Constr. Co., Hatham Bldg. **$61,727.** Bids 12/2. Burns & McDonell, 107 W. Linwood St., Kansas City, Mo., engrs.

Neb., Hastings—State Bd. Control, L. R. Eby, secy., Lincoln, ward bldg. at Hastings State Hospital, to Geer-Mauer Constr. Co., Box 395, Grand Island. **$464,941.** CD 11/7—ENR 11/14.

★**N. Y., New York**—New York City Housing Auth., 122 E. 42 St., Zone 17, Amsterdam Houses, 61 to 64 Sts., West End to Amsterdam Aves., general contract, to Cauldwell-Wingate Co., 101 Park Ave., Zone 17, **$5,562,000*****heating and ventilating, to Raisler Corp., 129 Amsterdam Ave., Zone 23, **$488,129*****electrical work, to Arc Electrical Constr. Co., Inc., 739 Second Ave., Zone 16, **$254,400*****plumbing, to Jesse E. Kahn, 131 W. 21 St., Zone 11, **$960,000.** Grand total $7,224,529. Bids 11/6. CD 11/7—ENR 11/14, under LB.

COMMERCIAL BUILDINGS

Additional earlier Construction Reports will be found in the regular section.

BIDS ASKED

Bids Asked About January 15

La., Lake Charles—St. Patricks Hospital, Sisters of Charity of the Incarnate Word, Mother M. Damian, 6510 Lawndale St., Houston, Tex., 4 story, brick, limestone, concrete maternity ward, $500,000; 3 story, brick, limestone, concrete convent, $400,000; laundry plant, $65,000. Golemon & Rolfe, 201 San-Joacinto Life Bldg., Beaumont, and Cotton Exchange Bldg., Houston, Tex., engrs. CD 5/20—ENR 5/30.

Tex., Beaumont—Hotel Dieu Hospital, c/o Sisters of Charity of the Incarnate Word, c/o Mother M. Damian, 6510 Lawndale St., Houston, 4 story, 42x145 ft., rein.-con. brick hospital addn. for colored, $400,000; 4 story, 42x164 ft. with wing 40x78 ft., rein.-con. nurses home, $400,000. Golemon & Rolfe, 201 San Jacinto Life Bldg., engrs. CD 3/8—ENR 4/4.

LOW BIDDERS

R. I., Cranston—E. C. Picerne, Cranston St., received no bids 3 story, bsmnt., 80x160 ft., brick, steel, cinder block apartments, Cranston St. **$210,000.** CD 10/17—ENR 10/24.

CONTRACTS AWARDED

Calif., Manhattan Beach—Manhattan Village, Inc., c/o Sol Bergman, 1646 Wooster St., Los Angeles, 278 frame, stucco dwellings, on 55 acre site east of Sepulveda Blvd. between Marine Ave. and Center St., to Lindgren & Swinerton, 605 W. Olympic Blvd., Los Angeles. Over **$500,000.**

Fla., Orlando—Gabel Constr. Co., 19 Rutland Bldg., 66 houses, on North Shore of Rock Island, own forces. **$400,000.**

Ga., Doraville—J. A. Jones Constr. Co., Walton Bldg., Atlanta, residential development, Peachtree Rd., own forces. Over **$205,000.**

Ill., Chicago—Mayfair Constr. Co., 5660 N. Kedzie St., general contract two 3 story, 32x310 ft. English Basement Apartments, own forces***masonry, to Howard Ritman, 5660 N. Kedzie St.***plumbing, to Economy Plumbing & Heating Co., 1308 S. Pulaski Rd. Est. **$380,000.** R. F. Houlihan and E. Marks, 5660 N. Kedzie St., archts.

Ill., Wilmette—Irvin A. Blietz, 19 Salem Lane, Skokie, 24 family 3 story, brick apartment, owner builds***plumbing to Commonwealth Plumbing Co., 5910 N. Wester Ave., Chicago***heating to Advance Heating & Air Conditioning, 117 N. Desplaines St., Chicago***electrical work, to Shoreline Electric Co., 1413 W. Howard St., Evanston. Est. **$240,000.** J. A. Nelson, 5248 N. Glenwood St., Chicago, archt.

Ill., Tinley Park—Charles F. Butler, 30 W. Washington St., Chicago, one hundred 1½ story, brick residences, to Dream Homes, Inc., Harvey.

Ia., Davenport — Marycrest College, c/o Mother Mary Geraldine, 1607 W. 12 St., 3 story, brick, Indiana limestone college, incl. 225 student dormitory, dining hall, etc., to The Tunnicliff Constr. Co., Inc., 105 Fillmore St. Est. **$300,000.** S. Temple, 604 Putnam Bldg., archt.

★**N. J., Dumont**—Merritt Garden Apartments, Inc., Fred Inganamort, pres., c/o Percy S. Simon, archt., 362 Cedar Lane, Teaneck, garden type apartment proj., Madison Ave. and Knickerbocher Rd. Owner builds. **$1,000,000.**

R. I., Providence—Owner c/o contractor, 3 story, bsmnt. brick steel, cast stone (25 doctors' suites) Professional Bldg., to Arthur H. Shackleton, 19 Shirley Blvd., Cranston. Est. **$205,000.** R. Milton Kenyon, 124 Taunton Ave., East Providence, archt.

Tenn., Nashville—Home Development Corp., c/o contractor, 74 houses in 6th Civil Dist., to C. F. Rule Constr. Co., Stahlman Bldg. Est. **$500,000.**

Tex., Waco—Baylor University, Waco, Browning Library, to S. B. Swigert, Waco. **$475,000.** W. E. Simpson Co., Milam Bldg., San Antonio, engr. W. C. Hedrick, 1005 First Natl. Bank Bldg., Fort Worth, archt. CD 3/19/45—ENR 4/5/45.

INDUSTRIAL BUILDINGS

Additional earlier Construction Reports will be found in the regular section.

BIDS ASKED

Bids Asked January 3

Calif., San Jose—PLANT—Kaufman Meat Co., Berryessa Rd., 1 story, 100x100 ft. messanine plant, incl. altering existing plant. $100,000. Marion Ciampi, 333 Kearny St., San Francisco, archt. CD 7/17—ENR 8/1.

Bids Asked

R. I., Providence—PLANT—Eclipse Foods Products Co., 662 Admiral St., (selected list bidders) 2 story, bsmnt., brick, steel processing and packing plant, Admiral St. $55,000. Lawrence MacClean, 44 Franklin St., archt.

Tex., Houston — WAREHOUSE — Missouri, Kansas, Texas Railway Lines, c/o B. A. Erwin, Houston, warehouse. $80,000. K. H. Hanger, Ry. Exchange Bldg., St. Louis, Mo., engr.

SOON LETS CONTRACT

Va., Waynesboro—PLANT—E. I. duPont de Nemours & Co., Inc., duPont Bldg., Wilmington, Del., soon lets contract mfg. bldg. addn. Pope & Kruse, 407 Delaware Ave., Wilmington, archts. CD 9/25—ENR 10/17.

LOW BIDDERS

Tex., Dallas—COLD STORAGE PLANT—F. A. Kadane, Pure Ice & Cold Storage Co., 2800 Canton St., 3 story, 100x150 ft., brick, rein.-con. cold storage plant, pier fdn. from T. C. Bateson Constr. Co., 622 Irwin-Keasler Bldg. **$104,480.** CD 12/10—ENR 12/19.

CONTRACTS AWARDED

Calif., Fresno—PLANT—Atchison, Topeka & Santa Fe R. R., M. C. Blanchard ch. engr., 743 S. Hill St., Los Angeles, 1 story ice plant addn., rein.-con. to Sharp & Fellows Contg. Co., Central Bldg., Los Angeles Est. **$73,000.** T. Kendall, 1266 S. Boyle St., Los Angeles, engr.

Calif., Los Angeles—WAREHOUSE—Union Hardware & Metal Co., 411 E. First St., 4 story, 100x250 ft. Class A rein.-con. warehouse, First St. between Central and Alameda Sts., to Pozzo Constr. Co., 2403 Riverside Dr. over **$500,000.** CD 7/24—ENR 8/8.

Calif., Salinas—PLANT—International Minerals & Chemical Corp., Box 647, San Jose, and Spreckels Sugar Co., 2 Pine St., San

INDUSTRIAL BLDGS. (Contracts Awarded, Cont'd.)

Francisco, plant alterations, incl. boiler plant, steam generator, raising roof, and new equip., structural steel work to Herrick Iron Wks., 18 and Campbell Sts., Oakland. Est. $600,000.

Calif., San Pedro—CANNERY—Sun Harbor Packing Co., 1995 Bay Front St., San Diego, 150x300 ft., steel, granite fish cannery, 1020 Way St., to Austin Co., 777 E. Washington Blvd., Los Angeles. Approx. $175,000. A. E. Schmidt, 777 E. Washington Blvd., Los Angeles, engr.

Mass., Fall River — FACTORY — Danbury Carroting Corp., 126 Shove St., general contract, rebuilding 3 story, brick factory, to John Simpson Jr., North Tiverton, R. I. Est. $75,000. CD 11/25—ENR 11/28.

Mo., Richland—FACTORY—Richland Development Corp., J. L. Bohannon, mgr., Richland, 1 story, 140x145 ft., brick, shoe factory, rein.-con., fdn., incl. boiler room, coal bins and platform, own forces International Shoe Co., 1509 Washington Ave., St. Louis, Zone 3, lessee. $70,000-$75,000.

Tex., Houston—GARAGE, etc.—Ben Milam Hotel, 1521 Texas St., mechanical garage and storage and laundry plant, to Southwestern Constr. Co., 3802 Calhoun St. Approx. $80,000.

★**Tenn., Bristol**—FACTORY—Monroe Calculating machine Co., Bristol factory mfg. business machines, to Alley Constr. Co., Box 736. Est. $1,000,000. CD 10/31—ENR 11/14.

★**Tex., Houston**—PLANT—Shell Oil & Refining Co., Chemical Div., Shell Bldg., chemical plant mfg. synthetic glycerin, to C. F. Braun & Co., M. Esperson Bldg. Approx. $7,000,000. CD 10/17—ENR 10/31.

Tex., Houston—MEAT PACKING PLANT—Taub Packing Co., Post Oak Rd. at Katy Ry., expanding, imprv. meat packing plant, rendering plant, slaughter house, frozen food lockers, etc., force account. $75,000.

Tex., Houston—PLANT—B. F. Trappey's Sons, Inc., M & M Bldg., 1 story, 126x212 ft. masonry canning plant, to H. K. Ferguson & Co., M & M Bldg. Approx. $110,000.

Wis., Biron — FACTORY — Consolidated Water Power & Paper Co., Wisconsin Rapids, 3 story, 40x80 ft. groundwood bleach plant, and 1 story, 40x169 ft. grinder bldg., both rein.-con., brick, tile, own forces. W. F. Thiele, ch. engr.

Wis., Oconomowoc—FACTORY—Musebeck Shoe Co., Danville, Ill., 1 story, 128x128 ft. shoe factory and 1 story, 20x20 ft. boiler room, steel, concrete block, concrete fdns., to R. Sholts, 517 S. Hyman Ave.

Wis., West Allis—FOUNDRY—Allis-Chalmers Mfg. Co., 1126 S. 70 St., Zone 14. Foundry 1 alterations, addns. to Siesel Constr. Co., 514 E. Ogden Ave., Milwaukee, Zone 2. Est. $70,000. C. E. Meyers, c/o owner, archt.

B. C., Vancouver—TERMINAL—B. C. Motor Transportation Ltd., 570 Dunsmuir St., 3 story, rein.-con. bus terminal, incl. waiting room facilities, restaurant, offices, lunch rooms, etc., to Dominion Constr. Co. Ltd., 150 W. 1 Ave. $300,000. Awarded 12/4. Dominion Constr. Co. Ltd., engr. CD 9/14—ENR 9/22.

Ont., Hamilton—PLANT—Canadian Refractories, Ltd., 105 Walnut St., 1 story, 63x102 ft., concrete block, structural steel plant, rein.-con. fdn., Lottridge and Clinton Sts., to W. H. Cooper Constr. Co. Ltd., Medical Arts Bldg. About $60,000.

Ont., Orillia—PLANT—Otaco Ltd., West St. S., 1 story, 60x120 ft., concrete, brick, steel plant addn., day labor. $70,000. Sproatt & Rolph, 1164 Bay St., Toronto, archts. R. Whalen, c/o owner, engr.

Ont., Ottawa — PLANT, etc. — Canadian Breweries Ltd., 297 Victoria St., Toronto, bottling plant and office bldg., to Carter Constr. Co. Ltd., 419 Cherry St., Toronto. Approx. $150,000.

Ont., Port Arthur—WAREHOUSE, etc.—Brewers Warehousing Co. Ltd., 801 Atlas Bldg., 1 story, 88x186 ft. warehouse and distr. bldg., 184 N. Water St., to Claydon Co. Ltd., 16 Victoria Block, Fort William. Approx. $100,000. CD 8/29—ENR 9/5.

Ont., Port Credit—OIL STORAGE TANK—Good Rich Refining Co. Ltd., Port Credit, oil storage tank, to Horton Steel Co., Fort Erie. About $565,000.

Ont., Toronto—PLANT, etc.—Allis-Chalmers Rumely Ltd., 1244 Dufferin St., plant and office, to Milne & Nicholls Ltd., 57 Bloor St. W. About $175,000. Marani & Morris, 46 Bloor St. W., archts.

Ont., Toronto — WAREHOUSE — Brewers Warehousing Co. Ltd., 350 Bay St., 86x88 ft. concrete, brick, warehouse, to Claydon Co. Ltd., 16 Victoria Bldg., Fort Williams. Est. $100,000. A. E. Angus, P. U. Bldg., Port Arthur, archt.

Ont., Toronto—WAREHOUSE—Owner, c/o Stanford & White, archts., 18 Grenville St., 82x106 ft., concrete, steel, brick, warehouse, to Cloke Constr. Co. Ltd., 215 Shelbourne St. Est. $80,000.

Que., Grand Mere — GARAGE — A. Courchesne, St. Maurice Hotel, 2 story, 50x80 ft., concrete, brick garage, day labor. $40,000.

Que., Lac Megantic—WAREHOUSE—Megantic Mfg. Co. Ltd., Lac Megantic, warehouse, to Olivia Lepine, Lac Megantic. Approx. $300,000.

Que., Montreal—WAREHOUSE—Owner, c/o E. A. Doucet, archt., 2245 W. Sherbrooke St., warehouse, to Emile Leduc, 1484 Orleans Ave. Est. $150,000.

Que., Montreal East (Postal Dist. Montreal)—GARAGE, etc.—Canada Cement Co. Ltd., Canada Cement Bldg., Montreal, garage and kiln, to A. Robertson Ltd., University Tower Bldg., Montreal. Est. $200,000.

UNCLASSIFIED

Additional earlier Construction Reports will be found in the regular section.

BIDS ASKED

Bids Asked December 20

†**Calif., San Francisco**—GRASSING, etc.—U. S. Eng., 74 Montgomery St., grassing, landscaping, Funston Playground, Ser. No. 04-203-47-47.

Bids Asked January 6

†**Wash., Seattle**—RADIO RANGE—Civil Aeronautics Admin., P.O. Box 3223, V. H. F. radio range facility south of city.

Bids Asked January 7

†**Washington** — METER, RELAY CUBICLE—Bureau Reclamation, Denver, Colo., meter and relay cubicle, for 11.95 k.v. local power sys., Grand Coulee Switchyard Columbia Basin Proj., Spec. 1569.

Bids Asked January 31

B. C., Campbell River (Ladore Falls)—DAM—S. B. Marshall, secy. B. C. Power Comn., 918 Government St., Victoria, regulating dam and appurtenant works. CD 3/15—ENR 4/4, under B. C., Ladore Falls.

SOON LETS CONTRACT

Missouri — RURAL DISTRIBUTION LINES—Ozark Border Electric Co-operative, 5 and Poplar Sts., Poplar Bluff, soon lets contract 171 mi. rural distr. line, consisting of 48 extens. in Butler, Ripley and Stoddard Counties. Plans deposit $25. CD 8/16—ENR 9/5.

Pa., Phila.—TELEVISION TOWER—The Phila. Inquirer, Triangle Publications Inc., 400 N. Broad St., soon lets contract 588 ft. television tower on Inquirer Bldg. Over $40,000. Albert Kahn Assoc. Architects & Engineers, Inc., New Center Bldg., Detroit, Mich., archt. CD 10/19/44—ENR 11/2/44.

Wisconsin—RURAL DISTRIBUTION LINE—Dairyland Power Co-operative, LaCrosse, soon lets contract rural distr. line Mississippi River crossing near Alma, Stanley Eng. Co., Muscatine, Ia., engr. CD 6/20—ENR 7/11.

LOW BIDDERS

Calif., San Francisco—INNER TRACKS, etc.—Pub Utilities Comn., 287 City Hall, Dec. 10, reconstructing inner tracks on Market St. between Fremont and Eddy Sts., Spec. 253, from Charles L. Harney, 625 Market St. $183,266. CD 12/2.

Georgia—RURAL DISTRIBUTION LINES—Lamar Electric Membership Co-operative, Barnesville, rejected bids Nov. 12, 196.8 mi. lines in Lamar, Meriwether, Pike, Spalding, Upson, Monroe, Bibb and Crawford Counties. L. B. $214,842. CD 11/18—ENR 11/21.

†**N. M., Albuquerque** — FENCING, etc. — U. S. Eng., Commercial Bldg., fencing and electrifying same from Taylor & Montgomery, Lubbock, Tex. $63,685.

Texas—RURAL DISTRIBUTION LINES—Medina Electric Co-operative, Inc., Medina, 117 mi. rural distr. lines, Medina Co., from Cisco Electric Co., Conroe. $96,000. Baker Eng. Co., 305 Moore Bldg., San Antonio, engr. CD 9/25—ENR 10/17.

CONTRACTS AWARDED

Alabama—RURAL DISTRIBUTION LINES—Pioneer Electric Co-operative, Greenville, rural distr. lines, Butler Co., own forces. $675,000. Southwest Engineers, P. O. Box 6099, Dallas, Tex., engrs. CD 5/15—ENR 5/23.

†**Calif., San Diego**—DOLPHINS, etc.—Yards and Docks Annex, Navy Dpt., Arlington, Va., Pacific Hy., thirty 20-pile dolphins and catwalk sections adjacent to piers, Navy Yard, to Johnson Western Co., 2100 Wilmington, San Pedro Rd., San Pedro. $99,760.

Conn., Bridgeport—OIL TERMINAL—Buckley Brothers, 80 Seaview Ave., oil terminal, bulkhead-pier, causeway, pipelines, to Merritt-Chapmen & Scott, 292 Pequot Ave., New London. Est. $400,000. Westcott & Mapes, 109 Church St., New Haven, engrs.

Fla., Winter Haven — STADIUM — City, Winter Haven, football stadium, to Paul Smith Constr. Co., 310 N. Rome Ave., Tampa. Est. $55,000.

Georgia—RURAL DISTRIBUTION LINES—Excelsior Electric Membership Corp., Metter, rural distr. lines, Candler Co., own forces. $338,000. CD 8/16—ENR 8/22.

Iowa—RURAL DISTRIBUTION LINES—Rideta Electric Co-operative, Mt. Ayer, 145 mi. rural distr. lines in Ringgold and Taylor Counties, to Trans-Electric Builders, Inc., 1901 Easton Blvd., Des Moines. Est. $150,000. Brown. Eng. Co., 202 V Bank Bldg., Des Moines, engr.

Minnesota—RURAL DISTRIBUTION LINES — Wright-Hennepin Co-operative Electric Assn., E. R. Siebeske, mgr., Maple Lake, approx. 200 mi. rural dist. lines, Wright Co., force account. $300,000. General Eng. Corp., 2950 Chicago Ave., Minneapolis, engr.

Oklahoma—CRUDE OIL PIPELINES—Interstate Oil Pipe Line Co., NE 10 St., Oklahoma City, 17½ mi. 4 in. and 14.3 mi. 6 in. crude oil pipelines, in Maysville, to O. C. Whitaker Co., Maysville. Approx. $92,000.

Pa., Phila.—TANK FOUNDATIONS—Gulf Oil Corp., 30 St. and Penrose Ave., tank foundations at Girard Point, to Henry E. Baton, Inc., 1717 Sansome St. Over $40,000. Awarded 11/29.

Texas—RURAL DISTRIBUTION LINES—McCullough County Electric Co-operative, Brady, 150 mi. rural distr. lines, McCullough Co., force account. Approx. $180,000. Beavers & Lodal, Transit Tower, San Antonio, engrs. CD 6/24—ENR 7/11.

Texas—RURAL DISTRIBUTION LINES—Lower Colorado River Auth., American-Statesville Bldg., Austin, rural distr. line into Kerrville, force account. $90,000. CD 7/26/45—ENR 8/2/45.

Texas—RURAL DISTRIBUTION LINES—Texas Power & Light Co., Interurban Bldg., Dallas, 85 mi. rural distr. line between Jewett and Lufkin, force account. Approx. $110,000. CD 1/9—ENR 1/24.

Tex., Mesquite—RAILWAY SPUR TRACKS—Texas & Pacific Ry. Co., R. J. Gammie, ch. engr., Texas & Pacific Bldg., Dallas, railway spur tracks to industrial area, force account. Approx. $40,000. CD 4/2—ENR 4/18.

Ont., Meaford — WALL — Dpt. P. Wks., Hunter Bldg., Ottawa, revetment wall, to Canadian Dredge & Dock Co. Ltd., Harbor Comn. Bldg., Toronto. About $43,000. CD 4/8—ENR 4/18.

Ont., Merritton—WADING and SWIMMING POOLS, etc. —Lions Club, 8 Hazel St., swimming pool, wading pool bathhouse and walks, etc., to Rymer Bros., St. Catherine. About $35,000.

Quebec—RURAL DISTRIBUTION LINES—La Compagnie Electricite, Du Saguenay, Labarre, rural distr. lines, in Labarre, day labor. $150,000. CD 10/10—ENR 10/31.

Que., Hull—RADIO STATION—Reverand Oblate Fathers, Hull, 2 story, concrete, stone radio station, to E. Brunet & Sons, 41 Tracy St. Est. $50,000. CD 12/3.

Que., Mont Laurier—DAM—J. MacLaren Co. Ltd., 7 Marson St., Buckingham, dam constr., to Atlas Constr. Co. Ltd., 679 Belmont St., Montreal. Est. $100,000.

PROPOSED PROJECTS

Including class of projects previously listed as *postwar*

COMMERCIAL BUILDINGS

PROPOSED WORK

Ark., Jonesboro—Southwestern Bell Telephone Co., Jonesboro, enlarging exchange bldg. $250,000.

Ark., Little Rock—V. N. Carter, 1519 Summitt St., 3 story, 24 unit, semi-fireproof apartment, 916-24 Commerce St. $210,000.

★**Ark., Little Rock**—W. D. Cammack, Cammack Village, plans by J. Frazier Smith, Goodwyn Institute Bldg., Memphis, Tenn., four 6 story apartments in Magnolia addn. $1,500,000. CD 5/20—ENR 5/30.

★**Calif., Los Angeles**—Guarantee Insurance Co., 3601 S. Flower St., Los Angeles, plans by Claude Beelman & Herman Spackler, Union Bank Bldg., 10 story, 50x75 ft. rein.-con., steel office, Wilshire Blvd. and Burlington Ave. $1,000,000.

★**Calif., Marysville** — Pacific Telephone & Telegraph Co., 140 New Montgomery St., San Francisco, 2 story, bsmnt., rein.-con. central office telephone bldg. $1,000,000.

Calif., Napa—Pacific Telephone & Telegraph Co., 140 Montgomery St., San Francisco, 3 story, bsmnt., steel, concrete telephone exchange bldg. $400,000.

Conn., Hartford—W. G. Harper, c/o F. C. Walz, archt., 247 Putnam St., plans completed 14 brick, cinder block garden apartments, South St., Elmwood Sect. $205,000. Financing provided.

Conn., Hartford—Institute of Living, 400 Washington St., brick, steel hospital for childrens psychiatric unit. $205,000. Financing not provided.

Conn., Hartford—Trinity College, Dr. G. F. Funston, pres., Summit St., plans by McKim, Mead & White, 101 Park Ave., New York, N. Y., brick, stone field house incl. lockers, showers, etc. $350,000. CD 9/26—ENR 10/10.

Conn., New Haven—Jewish Community Center, c/o J. Weinstein, archt., 100 Lowin St., 3 story, bsmnt., brick, stone community center, incl. library, gymnasium and swimming pool. $700,000. Financing not provided. C. Abramowitz, 52 Geoffe St., New Haven, engr. and archt.

COMMERCIAL BLDGS. (Proposed Work, Cont'd.)

Conn., Norwalk—J. A. Henriques, 1713 Myrtle Ave., plans under way, frame homes. Over $205,000.

Conn., Norwich—William W. Backus Hospital; A. B. Barnes, pres. Executive Com., 326 Washington St., brick, steel modern maternity unit hospital addn. Over $205,000. Financing not provided.

Conn., Simsbury — Simsbury Development Co., Main St., plans by Thomas H. Desmond, Inc., Drake Hill Rd., frame inn and modern homes, Hopmeadow. $250,000.

Conn., Wethersfield—Sunshine Homes, Inc., S. I. Ward, 29 Allyn St., Hartford, 2 story, brick garden type homes, Goodwin Park Development. $205,000.

Del., Milford—Milford Memorial Hospital, Milford, plans by G. Morris Whiteside, du-Pont Bldg., Wilmington, hospital addn. $250,000. Financing not provided.

★**Fla., Dunedin**—Honeymoon Isle Assn., c/o H. H. Wolfe, 4540 Brookside Rd., Toledo, O., commercial development on Honeymoon Isle, 3 mi. from here. $10,000,000.

Fla., Ocala—First Methodist Church, c/o C. Farris Bryant, chn. Bldg. Com., Ocala, church. $250,000. Financing provided.

★**Fla., Tampa**—Clinton M. Washburn, 1103 S. Dakota Ave., residential and commercial development on Honeymoon Island. $10,000,000. Financing provided.

Ga., Atlanta—Henry Grady Hotel. Peachtree St. N.E., plans by Cooper, Bond & Cooper, Henry Grady Bldg., 130 suites addn. and general modernization of hotel. Over $205,000. Financing provided.

Ga., Decatur—Agnes Scott College, Decatur, plans by Sayward, Logan & Williams, Palmer Bldg., Atlanta, science bldg. $475,000.

★**Ill., Chicago**—Chicago Sinai Community Center, 29 S. LaSalle St., plans by Friedman A. Alschuler & Sincere, 28 E. Jackson Blvd., 3 story, stone, steel, rein.-con. temple and community center. $1,000,000.

Ill., Chicago—North Park Congregation, c/o J. Goldman & Victor Grimmer, archts., 111 W. Monroe St., 2 story, limestone, rein.-con. synagogue and school. $250,000. CD 11/27/45—ENR 12/6/45.

Ill., Decatur—Publix Great States Theaters, Inc., B. Balaban, pres., 175 N. State St., Chicago, plans by Milton S. Carstens, 1 N. LaSalle St., Chicago, rein.-con., brick, steel, stone, structural glass bldg., containing 2,000 seat theatre, 3 stores, theatre office, etc.

Ill., Rockford—Winnebago Co. Agricultural & Industrial Exposition Assn., Rockford, sketch plans, made by A. Reyner Eastman, Rockford, non-profit development, incl. grandstand, coliseum, half mile race track and suitable exposition bldg. near here. $350,000.

Ind., East Chicago—Manta & Rose, 600 S. Michigan Ave., Chicago, Ill., plans by Lawrence Monberg, 232 E. Erie St., Chicago, Ill., 2 story, steel, concrete, brick office, theater, store. $250,000.

Ia., Dubuque—Dominican Sisters, c/o Sister Superior, Dubuque, plans by C. I. Krajewski, 25 N. Michigan Ave., Chicago, Ill., 4 story, 140x175 ft., (2 wings) brick, rein.-con., steel home for aged and infirm sisters of order, incl. sleeping rooms, power plant, etc.

Kan., Kansas City—Charles E. Vawter Inv. Co., c/o C. E. Vawter, 5326 Roe Blvd., 15 residences. $325,000.

Mass., Fairhaven—H. R. Tobin, 214 Fifth St., Providence, R. I., brick theater, also bldg. for bowling alleys and stores, North Fairhaven Sect. $210,000. Financing provided.

Mass., Taunton—Enterprise Dept. Stores, Inc., 1475 Hancock St., Quincy, plans by Sumner Schein, 333 Washington St., Boston, store alterations, incl. new front, interior changes and rear addn. $210,000. Financing provided.

Minn., Moorhead—Concordia College, J. N. Brown, pres., plans by W. M. Ingemann & M. L. Bergstedt, 345 Minnesota Bldg., St. Paul, 2 story, stone music bldg., $205,000; heating plant, $100,000.

Minn., St. Paul—First Covenant Church, Rev. C. G. Charn, 1055 Bradley St., plans by W. M. Ingemann & M. L. Bergstedt, 345 Minnesota Bldg., church and Sunday School bldg., Arcade St. $205,000.

Mo., Kansas City—National College for Christian Workers, c/o Rev. L. B. Carpenter, pres., 15 St. and Van Brunt Blvd., plans by Poundstone, Ayer & Godwin, Palmer Bldg., Atlanta, Ga., chapel and library. $300,000.

Mo., Kansas City—R. L. Willis & Co., 4610 Troost St., plans by W. Koch, 3652 Campbell St., apartment, Kenwood and Armour Sts. $220,000.

Mo., St. Louis—Central Institute for Deaf, 818 S. Kingshighway, Zone 10, rein.-con., brick, stone dormitory, incl. clinical quarters and research laboratories. $750,000. Financing not provided.

Neb., Omaha—United Orthodox Congregation of Omaha, c/o Rabbi Israel Mowshowitz, 3029 Lafayette Ave., plans by Kivett & Myers, 1016 Baltimore St., Kansas City, Mo., synagogue. $250,000.

N. J., Atlantic City—Atlantic City Tuna Club, 741 N. Mass St., rebuilding clubhouse, pier, bulkheading, etc. $250,000. Financing provided.

N. J., Penns Grove—Italian American Club, c/o Edwards & Green archts., Broadway and Carmen Sts., Camden, clubhouse. Over $205,000. Financing provided. CD 10/2—ENR 10/10.

★**N. J., Princeton**—**Princeton University,** plans Public and International Affairs bldg. $1,500,000. Financing not provided.

N .Y., Brooklyn—PARK—Community Corp., c/o Charin & Kallich, archts., 161 Remsen St., Zone 2, plans completed 25 two-story houses, 127 to 157 A Maspeth Ave. $205,000. Financing provided.

N. Y., Elmira—Sears Roebuck & Co., Roosevelt Blvd. and Adams Ave., Phila., Pa., plans by Fred B. O'Connor, 109 Onondaga St., Syracuse, retail store. Over $205,000. Financing provided. J. S. Redden, Arthington and Homan Aves., Chicago, Ill., co.'s archt.

N. Y., Flushing—Jewel Gardens, Inc., c/o archt., O. I. Silverstein, 153 Pierreport St., Brooklyn, Zone 2, plans completed 32 two-family houses, 70 Rd. and W. 141 St. $448,000. Financing provided.

N. Y., Flushing—Kew Gardens Hills Development Corp., c/o A. H. Salkowtiz, archt., 37-60 82 St., Jackson Heights, plans completed 30 one-family and 4 two-family houses, 72 Ave., Vleigh Pl. and 147 St. $209,500. Financing provided.

N. Y., Hollis—Junction Homes, Inc., c/o Seelig & Finkelstein, 153 Pierreport St., Brooklyn, Zone 2, plans completed 37 one-family houses, 125 Ave., Francis Lewis Blvd. $315,500. Financing provided.

N. Y., New York—Lerner Shops, Inc., 35-4 Ave., Zone 10, plans completed 3 story store, 5 Ave. between 13 and 14 Sts. $600,000. Financing provided. Joseph De Stasio, 136 Liberty St., Zone 6, consult. engr.

N. Y., New York—Natl. Academy of Design, 1083 Fifth Ave., Zone 28, plans completed by Thomas Harlan Ellett, 101 Park Ave., Zone 17, altering studios and galleries, 3-7 E. 89 St. $205,000. Financing provided.

N. Y., Queens Village—U.N. Homes, Inc., c/o Samuel Paul, archt., 163-18 Jamaica Ave., Jamaica, plans completed 36 one-family houses, 82 Ave., 253 and 251 Sts. $310,000. Financing provided.

N. Y., Watertown—Sears Roebuck & Co., Roosevelt Blvd. and Adams Ave., Phila., Pa., plans by Fred B. O'Connor, 109 Onondaga St., Syracuse, retail store. Over $205,000. Financing provided. J. S. Redden, Arthington and Homan Aves., Chicago, Ill., co.'s archt.

N. C., Durham—William H. Rowe & W. Earl Jones, Durham, plans by George Watts Carr, Durham, 36 unit apartment. $225,000. CD 10/7—ENR 10/17.

★**O., Alliance**—Mt. Union College, Alliance, library, theater, chapel and dormitories. $1,650,000. Financing not provided.

Okla., Norman—Harry Levy, 2448 N. W. 42 St., Oklahoma City, plans 50% completed by Albon W. Davis, 2411 Apoco Tower, Oklahoma City, 51 unit housing for faculty members. $400,000. Financing provided.

Okla., Oklahoma City—George Epperley, 3710 S. McKinley St., plans 60% completed by Albon W. Davis, 2411 Apco Tower, 35 housing units at Epperley Heights addn. $230,000. Financing provided.

Okla., Oklahoma City—G. A. Nichols, 115 N. Harvey St., plans 10% completed by Rue & Berlowitz, 4329 N. Western St., remodeling, completing 7 story, bsmnt. Gladish Bldg. 1 and Hudson Sts. $225,000. Financing not provided.

★**Ore., Carlton**—Builders, Inc., Carlton, 125 houses. $1,143,750.

★**Ore., Portland**—Harry Mittleman, Inc., 710 S. W. Madison St., 61 two story apartments, adjacent to Rose City Golf Course. $2,500,000.

Pa., Phila.—Owner, c/o B. Nathaniel Richter, North American Bldg., plans by George Idell, 1510 Chestnut St., apartment. Over $500,000. Financing provided.

R. I., Pawtucket—Owner c/o Creer, Kemp, Mathers & Aldrich, archts., 423 Industrial Trust Bldg., Providence, plans completed 1 story, bsmnt., rein.-con. department store addn. $205,000. Financing provided.

R. I., South Kingstown—South County Hospital, South Kingstown, plans by Albert Harkness, 1428 Industrial Trust Bldg., Providence, brick, steel hospital addn., incl. administration offices, Wakefield Sect. $205,000. Financing not provided.

Tex., Alamo Heights (San Antonio P.O.)—Alamo Heights Methodist Church Congregation, 5101 Broadway, San Antonio, plans by Henry Steinbomer, 912 Travis Bldg., San Antonio, church expansion. $225,000. Financing not provided.

Tex., Austin—St. Austin's Catholic Church, 403 W. 21 St., limestone church, 2 auditoriums, 1,150 seating capacity, air-conditioning. $300,000. Financing provided.

★**Tex., Dallas**—Dr. Frank H. Austin, 5450 Preston Rd., 300 bed hospital. $2,000,000. Financing provided.

Tex., Dallas—**Republic National Life Insurance Co.**, 351 W. Jefferson St., home office bldg. $300,000; enlarging 8 story Republic National Life Bldg. $250,000 tent. Financing provided.

Tex., Galena Park—Galena Park Catholics, Mary Gorley pres., church and school. $210,000. Financing provided.

Tex., Houston—Battelsteins, Inc., 812 Main St., commercial bldg. $600,000. Financing provided.

Tex., Houston—Immanuel Lutheran Church, 1447 Allston St., plans 5% completed by Carl H. Stautz, 1704 Exposition Blvd., church and school bldg. $205,000. Financing provided. (Correction—owner. CD 12/3.

Tex., Houston—Julia Chester House, 3605 Lyons St., plans by Eugene Werlin, 3501 Buffalo Dr., community educ. and recreation center bldg. $205,000. Financing provided.

Tex., Houston—L. M. Lurie, 1500 Ruth St., apartment units. $225,000. Financing provided. CD 11/26/45—ENR 12/3/45.

★**Tex., Houston**—J. G. Miller & Assoc., Citizens State Bank Bldg., residences. $800,000 tentative; community center, $250,000, tentative. Financing provided. Sites purchased.

Tex., San Angelo—1st Methodist Church, San Angelo, plans completed church. $325,000. Financing provided.

Tex., San Antonio—South Texas Development, Travis Bldg., plans completed by B. K. Wyatt, 906 Travis Bldg., six 2 story, rein.-con., brick, etc., veterans housing, slab fdn. $210,000. Financing provided.

★**Tex., Waco**—Masonic Grand Lodge of Texas, c/o Pat M. Neff, grandmaster, Waco, plans by R. L. White, c/o University of Texas, Austin, masonic lodge and temple bldg. $1,000,000. Financing provided. Broad & Nelson, Burt Bldg., Dallas, and W. Cocke, Jr. & Co., 1507 Franklin St., consult. engrs. CD 1/31—ENR 2/14.

Utah., Salt Lake City — Church of Jesus Christ of Latter Day Saints, 1917 Wilson Ave., plans by Woods & Woods, 19 W. South Temple St., ward meeting house for Laurelcrest and Beacon Wards. $220,000.

Va., Richmond—Grace Baptist Church, Blvd. and Grove Ave., rebuilding church at Windsor Farms. $400,000.

Wash., Bellevue—Pacific Tel. & Tel. Co., Telephone Bldg., Seattle Zone 1, rein.-con. telephone exchange. $250,000.

Wis., Sheboygan—Y.M.C.A., 713 Ontario Ave., plans by Satre & Senescall, 707 Center Ave., Y.M.C.A. bldg. $400,000. Financing not provided.

B. C., New Westminster—The Canadian Legion, New Westminster, plans by McCarter & Nairne, 1930 Marine Bldg., Vancouver, 5 story, 131x132 ft., rein.-con. bldg., containing club headquarters, canteen, snack bars, bowling alleys, meeting rooms and offices and auditorium. $350,000. CD 2/28—ENR 4/4.

B. C., Rounds—Alaska Pine Co., Ltd., 4 Ave. and 15 St., New Westminster, 65 frame homes and 16 man-living apartments. About $700,000. R. R. McKee, 429 Marine Bldg., Vancouver, archt.

Ont., Brantford—Odeon Theatres of Canada, Ltd., 2 King St. E., Toronto, plans by J. I. English, 24 King St. W., Toronto, theatre, Marlet St. Approx $300,000.

Ont., McKellar (P. O. Ottawa)—Delcor Constr. Co. Ltd., Billings Bridge, 50 dwellings. $300,000.

★**Ont., Rockcliffe (P. O. Ottawa)**—Rhodes Munro & Co., 46 Elgin St., Ottawa, 300 dwellings. $2,100,000.

★**Ont., Toronto**—C. Smythe, Ltd., San East Dr., 200 dwellings. $1,720,000. CD 9/7/45—ENR 9/27/45.

Ont., Toronto—Village Developments Ltd., 331 Bay St., housing development for 1947. $250,000.

Que., Montreal — Unions Economique d' Habitations, Inc., 21 Des Maronners Ave., cottages. $225,000.

Que., Quebec City — Catholic Syndicate, 19 Caron St., plans by G. Desmeules, 226 St. John St., 5 story, 70x170 ft., rein.-con., stone office and meeting place bldg. $250,000.

Que., Quebec City—Henri Giquere, 501 St. Vallier St., plans by Bouchard & Rinfret, 327 Dorchester St., 8 story, 77x85 ft. store and office bldg., Blvd. Charest and Dorchester St. About $500,000.

Que., Quebec City—Syndicats Catholique de Quebec, 19 Caron St., plans by G. Gesmeules, 226 St. John St., 5 story, bsmnt., 75x170 ft., rein.-con. brick, stone labor center, Caron St. About $350,000.

INDUSTRIAL BUILDINGS

PROPOSED WORK

Ala., Mobile—WAREHOUSE, etc.—Ogburn-Davison Co., Congress St., food storage warehouse and office. $100,000. Financing provided.

Ark., North Little Rock—PLANT—Leylind Mfg. Co., 622 E. Markham St., Little Rock, plant. $350,000.

★**Calif., Huntington Beach**—FACTORY, etc.—Sportsmans Inc., c/o D. D. Sallee, 403 W. 8 St., Los Angeles, 5 factory bldgs., office, 300 room hotel, etc. on 52 acre site. $5,000,000.

Calif., Los Angeles — WAREHOUSE — Bullock's Inc., 7 St., and Broadway, altering warehouse, 11 and Stanford Sts., Parkinson, Powelson, Briney, Bernard & Woodford, 410 N. La Brea St., archts. (Correction—status) CD 11/25—ENR 11/28, under CA.

Calif., Los Angeles—WAREHOUSE—Certified Growers of Calif., 4455 Fruitland Ave., 300x650 ft. rein.-con. food warehouse, Sheila St. between Industrial and Fitzgerald Ave. $635,500.

★**Calif., Los Angeles**—BREWERY—General Brewing Corp., 2601 Newhall St., San Francisco, plans by Meyer & Evers, 1201 Kohl Bldg., California and Montgomery Sts., San Francisco, part 1 story and part 2, 3 and 4 story, rein.-con., steel frame brewery. $2,000,000.

Proposal Advertisements see pp. 30 to 32

OFFICIAL PROPOSALS

Official notices of bids wanted on construction and related work, equipment and material for government, state, municipal departments and private enterprises

RATE: THE RATE FOR OFFICIAL PROPOSAL ADVERTISING IS 65 CENTS PER LINE (OR FRACTION) PER INSERTION
COPY RECEIVED UP TO 10:00 A.M. THURSDAY FOR ISSUE OUT THURSDAY SUBJECT TO SPACE OPEN FOR LAST MINUTE ADS
SEND COPY TO OFFICIAL PROPOSAL DIVISION, ENGINEERING NEWS-RECORD, 330 W. 42ND ST., NEW YORK 18, N. Y.

OFFICIAL PROPOSALS

Bids: January 20, 1947 (351)

Furnishing & Installing Pumping Equipment

CITY OF POUGHKEEPSIE, NEW YORK
BOARD OF PUBLIC WORKS

Poughkeepsie, New York, December 16, 1946

Sealed proposals will be received by the Board of Public Works of the City of Poughkeepsie, until 3:00 P.M. January 20, 1947 for furnishing and installing pumping equipment. All bids received pursuant to this notice will be publicly opened and read.

Plans, specifications, form of proposal, bond and contract may be obtained at the office of the Superintendent, Board of Public Works, Poughkeepsie, N. Y., and at the office of Malcolm Pirnie Engineers, 25 West 43rd Street, New York, N. Y. A set of the plans, specifications and contract documents may be had for use in making up a bid by depositing Ten Dollars ($10.00). If a bid is submitted, the deposit will be refunded upon return of the plans and specifications. In case a bid is not submitted, Five Dollars ($5.00) of the deposit will be refunded upon return of the plans and specifications in good condition within two weeks after the date of receiving proposals.

Each proposal shall be accompanied by a certified check for five percent (5%) of the total amount of the proposal made payable to the order of the CITY OF POUGHKEEPSIE. The bidder to whom the contract is awarded will be required to furnish, for the faithful performance of the work under this contract, an approved Surety Company bond in the total amount of the contract awarded.

The right is reserved to reject any or all bids.

BOARD OF PUBLIC WORKS OF THE CITY OF POUGHKEEPSIE
By Walter J. Davis
Clerk

Bids: January 3, 1947 (352)

State Highway Work

STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of Chapter 63 Laws of 1936, and amendments thereto, sealed proposals will be received until two o'clock p.m., eastern standard time, on FRIDAY, JANUARY 3, 1947, by Mr. Henry A. Cohen, Director, Bureau of Contracts and Accounts, 14th. Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y. for

SOIL EXPLORATIONS AND FOUNDATION INVESTIGATIONS AT VARIOUS SITES ON THE WOODBOURNE-ELLENVILLE STATE HIGHWAY, PARTS 1, 2A, and 2B, ULSTER AND SULLIVAN COUNTIES, which constitutes CONTRACT No. SM-12.

Maps, plans, and specifications may be seen and obtained at the Bureau of Contracts and Accounts on the 14th. Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., and also in the office of J. S. Bixby, District Engineer, Pleasant Valley Road, Poughkeepsie, N. Y.

The deposit for a set of plans, specifications and proposal forms is $5.00. A refund in full will be made to bidders for return of one set in good condition within 30 days of award or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

The Engineer's estimate of cost for this work is $21,100.00.

Proposal for this contract must be submitted in a separate sealed envelope with the name of the contract plainly endorsed on the outside of the envelope. Proposal must be accompanied by cash, draft or certified check, payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum of $1,055.00. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instruction to Bidders."

Foreign contractors must furnish the required certificate as to the payment of taxes in Articles 9A and 16 of the Tax Law of the State of New York. Corporations submitting proposals shall be authorized to do business in the State of New York.

The right is reserved to reject any or all bids.

CHAS. H. SELLS
SUPT. OF PUBLIC WORKS

OFFICIAL PROPOSALS

Bids: January 20, 1947 (353)

State Highway Work

STATE OF CONNECTICUT
HIGHWAY DEPARTMENT
NOTICE TO ALL CONTRACTORS:

Sealed bids for the construction of the following projects will be received by the State Highway Commissioner in Room 506, at the State Office Building in Hartford, Connecticut, until 2:00 PM EST, Monday, January 20, 1947, and then at said office or at such place at that time designated, publicly opened and read aloud.

Bond Issue Projects

Towns of Old Lyme and Old Saybrook

Substructure for a high-level fixed bridge over the Connecticut River. This consists of eleven reinforced concrete piers and two reinforced concrete abutments. Seven of the spans are over water and five of the spans over land for an overall length of approximately 2,448 linear feet between bearings on abutments.

Towns of Old Lyme and Old Saybrook

Superstructure for a high-level fixed bridge over the Connecticut River. This consists of two lines of deck plate girders supporting a roadway of two 26-foot lanes, a 4-foot center mall and two 3-foot concrete sidewalks with an overall length of approximately 2,448 linear feet between bearings on abutments.

Plans, specifications and special provisions on above projects may be examined at the following places:

Room 506, State Office Building, Hartford, Connecticut.

Project Office, opposite Library on Main Street (Route 156A), Old Lyme, Conn.

New England Road Builders Association, 20 Kilby Street, 7th Floor, Boston, Massachusetts.

Proposal Forms must be obtained in Hartford.

The minimum rates of wages to be paid labor of the various classifications shall be in accordance with the current schedule of wages established by the Labor Board, State of Connecticut, as provided in Chapter 80, Section 200F of the 1941 Supplement to the General Statutes, entitled: "Rates of Wages for Work on State Highway," but in no case less than the minimum shown for the different grades of labor on the above projects.

Contractors wishing to receive plans for their own use must obtain them in Room 506, State Office Building, Hartford, upon payment by check made payable to the Treasurer, State of Connecticut, in the sum of $2.21. The same set of plans cover both projects.

All bidders are required to inform themselves fully of the condition relating to the construction and labor under which the work will be or is now being performed and the Contractor must employ, as far as possible, such methods and means in the carrying out of his work as will not cause any interruption or interference with any other Contractor.

NOTE: Surety Company Bond on form furnished by the Highway Commissioner for at least one-third of the amount of the bid must accompany each proposal, unless the Contractor shall have filed with the office an Annual Proposal Bond. Certified checks will not be accepted. The State Highway Commissioner reserves the right to reject any and all bids.

William J. Cox
State Highway Commissioner
December 12, 1946

OFFICIAL PROPOSALS

Bids: December 17, 1946 (334)

Pumps, Electric Motors, Etc.

CONTRACT 363

SEALED BIDS will be received by the Board of Water Supply, at its offices, thirteenth floor, 120 Wall Street, New York City, until 11:00 A.M., Eastern Standard Time, on Tuesday, December 17, 1946, for Contract 363, for furnishing, testing and delivering two deep well pumps rated 600 gallons per minute at 710 feet total head and twenty-six other pumps of smaller capacities, with electric motors and appurtenances and miscellaneous control equipment, for chambers of the Delaware aqueduct, all as set forth in the specifications.

No bid will be received and deposited unless accompanied by a certified check upon a National or State bank, drawn and made payable to the order of the Comptroller of the City of New York, in the amount of six thousand dollars ($6,000.00), for the proper execution of the contract.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders, forms of bid and contract, specifications, contract drawings, requirements as to surety, etc. can be obtained at the office of the Secretary at the above address, upon application in person or by mail, by depositing the sum of five dollars ($5.00) in cash or its equivalent for each pamphlet. Within 30 days following the award of contract or rejection of bids, the full amount of such deposit will be refunded for each pamphlet submitted as a bid and a refund of four dollars ($4.00) will be made for each other pamphlet returned in acceptable condition. Arrangements will be made whereby prospective bidders desiring blueprints of the contract drawings for their own use may secure same, the cost thereof to be paid by them. For further particulars, apply at the office of the Chief Engineer at the above address.

IRVING V. A. HUIE, President, HENRY HESTERBERG, RUFUS E. McGAHEN, Commissioners, Board of Water Supply; RICHARD H. BURKE, Secretary.

U. S. Government

U. S. Engineer Office, Huntington 18, West Virginia.—Sealed bids will be received here until 3 January 1947 for furnishing all plant, labor, materials and equipment and performing all work for reconstruction of Dam No. 7 Muskingum River, Ohio. Application for specifications and drawing should be made to this office. Copies are available for examination at U. S. Engineer Offices in cities of Cincinnati, St. Louis, Pittsburgh and Louisville. (333)

Read the Official
Proposal Columns of
ENGINEERING NEWS-RECORD
This Week and Every Week

U. S. GOVERNMENT PROPOSALS

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation, Denver, Colorado. Sealed bids (Specifications No. 1570) will be received by Bureau of Reclamation, Denver, Colorado, until 10 a.m., January 15, 1947, and then publicly opened for furnishing labor and materials and performing all work for the construction of earthwork and structures for Aspen Creek siphon; Marys Lake Power Plant, penstock, spillway, and switchyard; Marys Lake Reservoir dike, and road relocation; Prospect Mountain conduit; Estes Power Plant, penstocks, and switchyard, Colorado-Big Thompson Project, Colorado. The work is situated from 1 mile east to 4½ miles southwest of Estes Park, Colorado. Principal items are approximately: Schedule No. 1—Estes Power Plant and switchyard, 15,000 cubic yards of excavation; 34,000 cubic yards of fill; 9,900 cubic yards of concrete; Furnishing and placing 1,000,000 pounds of reinforcement bars; Installing 900,000 pounds of gates, valves, pipe, and other metalwork; and Installing 40,000 linear feet of electrical metal conduit. Schedule No. 2—Marys Lake Power Plant and switchyard, 6,300 cubic yards of excavation; 3,000 cubic yards of concrete; Furnishing and placing 357,000 pounds of reinforcement bars; Installing 210,000 pounds of gates, cranes, pipe, and other metalwork; and Installing 8,100 linear feet of electrical metal conduit. Schedule No. 3—Marys Lake penstock gate structure, penstock, and spillway—Estes penstock gate structure and penstock, 70,000 cubic yards of excavation; 31,000 cubic yards of backfill; 4,200 cubic yards of concrete; Furnishing and placing 580,000 pounds of reinforcement bars; Installing 7,500,000 pounds of gates, cranes, pipe, penstocks, and other metalwork. Schedule No. 4—Aspen Creek siphon, 135,000 cubic yards of excavation; 102,000 cubic yards of backfill; 11,100 cubic yards of concrete; Furnishing and placing 2,100,000 pounds of reinforcement bars; and Installing 44,000 pounds of metal water stops, gates, and other metalwork. Schedule No. 5—Prospect Mountain conduit and Marys Lake Reservoir dike and road relocation, 67,000 cubic yards of excavation; 100,000 cubic yards of embankment and backfill; Furnishing and placing 1,300,000 pounds of reinforcement bars; 7,300 cubic yards of concrete; and Installing 107,000 pounds of metal water stops, gates, and other metalwork; and other work. 800 days will be allowed for Schedules Nos. 1 and 2, and 730 days will be allowed for Schedules Nos. 3, 4, and 5. For particulars, address the Bureau of Reclamation; Estes Park, Colorado; Customhouse, Denver 2, Colorado; or Washington 25, D. C.

MICHAEL W. STRAUS,
Commissioner.
(346)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation, Denver, Colorado. Sealed bids (Specifications No. 1567) will be received by Bureau of Reclamation, Denver, until 2 p.m., January 6, 1947, and then publicly opened for furnishing structural-steel roof framing for a machine-shop building approximately 130 feet by 430 feet; and other items. Delivery is desired within 150 days. For particulars, address the Bureau of Reclamation, Customhouse, Denver 2, Colorado; or Washington 25, D. C.

MICHAEL W. STRAUS,
Commissioner.
(345)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation, Denver, Colorado. Sealed bids (Specifications No. 1576) will be received by Bureau of Reclamation, Denver, until 2 p.m., January 17, 1947, and then publicly opened for furnishing and delivering three 13,333-kva, 0-percent-power-factor, 240-rpm, 6,900-volt, -phase, 60-cycle, vertical-shaft, alternating-current generators and spare parts. Deliveries are desired in 640, 730, and 810 days. For particulars, address the Bureau of Reclamation, Customhouse, Denver 2, Colorado; or Washington 25, D. C.

MICHAEL W. STRAUS,
Commissioner.
(348)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation, Denver, Colorado. Sealed bids (Specifications No. 1587) will be received by Bureau of Reclamation, Denver, until 2 p.m., December 23, 1946, and then publicly opened for furnishing and delivering one 5,000,000-pound-capacity, vertical, hydraulic, universal-type testing machine. For particulars, address the Bureau of Reclamation, Customhouse, Denver 2, Colorado; or Washington 25, D. C.

MICHAEL W. STRAUS,
Commissioner.
(349)

Public Roads Administration, Federal Works Agency, December 6, 1946. SEALED BIDS will be received at the office of the Division Engineer, Public Roads Administration, 1440 Columbia Pike, Arlington, Virginia, until 10:00 a.m., E.S.T., January 16, 1947, for the construction of Project 1PQ7-R8, Blue Ridge Parkway, Floyd, Franklin and Patrick Counties, Virginia. The approximate quantities of the more important items are as follows: 60,000 gal. Tar, and 17,000 tons Type H-1 Asphalt Pavement. Minimum wage rates have been fixed as required by law. For plans and specifications, a deposit of $10.00 cash or certified check made payable to the Treasurer of the United States will be required to insure their return within 15 days after the opening of bids. Plans, specifications and proposal forms may be obtained at the address given above. Plans and specifications may be examined at Public Roads Administration, 410 State and City Office Bldg., Roanoke, Virginia. H. J. Speiman, Division Engineer. (343)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation, Denver, Colorado. Sealed bids (Specifications No. 1585) will be received by Bureau of Reclamation, Denver, Colorado, until 10 a.m., January 22, 1947, and then publicly opened for furnishing labor and materials and performing all work for the construction of Granby Pumping Plant and Granby Pump Canal, between Granby and Grand Lake, Colorado, southeast of U. S. Highway No. 34. Principal items are approximately: Schedule No. 1, Granby Pumping Plant—900,000 cubic yards of excavation; 470,000 cubic yards of fill; Furnishing and handling 50,000 barrels of cement; 32,000 cubic yards of concrete; 35,000 pounds of gate frames and gates; 950,000 pounds of pipes, surge tanks, pumps, and cranes; 475,000 pounds of structural-steel work, track, and miscellaneous metalwork; Furnishing and placing 7,100,000 pounds of reinforcing bars; and other work. Schedule No. 2, Granby Pump Canal—975,000 cubic yards of excavation; 2,500,000 station cubic yards of overhaul; ,000 cubic yards of embankments; Furnishing and placing 100,000 pounds of reinforcement bars; 50,000 pounds of structural steel for bridges; Laying 900 linear feet of steel and concrete pipe; and other work. The greatest percentage of work under Schedule No. 1 to be completed within 700 calendar days; the remainder of Schedule No. 1 to be completed within 950 calendar days. 805 calendar days will be allowed for the work under Schedule No. 2. For particulars, address the Bureau of Reclamation: Estes Park, Colorado: Customhouse, Denver 2, Colorado; or Washington 25, D. C.

MICHAEL W. STRAUS,
Commissioner.
(347)

U. S. ENGINEER OFFICE, NORFOLK, VIRGINIA:—Sealed bids will be received here until 2:00 PM, EST, 7 January 1947, and then opened, for furnishing all plant, labor, materials, and performing all work for constructing the Access Highway from U. S. Highway 58 to Dam Site, Buggs Island Reservoir, Mecklenburg County, Virginia. Further information on application. (350)

U. S. ENGINEER OFFICE, NORFOLK, VIRGINIA:—Sealed bids will be received here until 11:00 AM, EST, 7 January 1947, and then opened, for furnishing all plant, labor, materials (except materials furnished by the Government) and performing all work for Government Construction Camp, Buggs Island Project, Mecklenburg County, Virginia. Further information on application. (344)

EARLIER CLOSING DATES

December 26 and January 2, 1947 Issues

Owing to the holidays, December 24, 25 and 31, and January 1, the Official Proposal pages of the above issues of Engineering News-Record will close for press 10 A.M. THURSDAY of the week *preceding* the date of issue (instead of Monday of the week of issue).

EMPLOYMENT OPPORTUNITIES

RATE: 15 CENTS A WORD, MINIMUM CHARGE $3.00

Positions Wanted (full or part time individual salaried employment only), ½ the above rates, payable in advance.

Box Numbers in care of any of our New York, Chicago or San Francisco offices count 10 words additional in undisplayed ads.

Discount of 10% if one payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals.)

Copy for new advertisements received until 10 A. M. Thursday for following Thursday's issue

WANTED

SUP'T AND FOREMAN

Experienced in road, sewer, and all type public utility construction in Metropolitan Area of New Jersey. Steady position. State age, experience and wage.

P-250, Engineering News-Record

330 West 42nd St., New York 18, N. Y.

POSITIONS VACANT

ENGINEER-ESTIMATOR wanted. Plumbing, Heating, Air Conditioning. Firm located in Penna. College background desirable but not absolutely necessary. Permanent position. Salary $5000.00 to start. State age, education, experience in first letter. Send photo. P-970, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

WANTED — STRUCTURAL Designers and Draftsmen experienced in steel and concrete design work in New York City, salary at prevailing rates. P-200, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

WANTED: FOREMAN, experienced on building, moving, shoring and heavy rigging. Work in Western Massachusetts. State age, experience, references, and salary requirements. P-188, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

WANTED: Structural and highway draftsmen and designers, Boston area, state experience. P-189, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

INSTRUCTORSHIPS, Assistant Professorships and Associate Professorships in chemical, civil, electrical, and mechanical engineering at mid-western university. Positions probably permanent for satisfactory candidates. Desirable that applicants have graduate degrees. Salaries $2200 to $4000 for nine months service, with extra pay for summer teaching. Please give education, experience, references, and publications in reply to P-190, Engineering News-Record, 520 N. Michigan Ave., Chicago 11, Ill.

WANTED: YOUNG Engineers — Instrument man, field engineer, office engineer, draftsman—for general municipal work with Southern city. Give full details including salary expected in first letter. P-198, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

CONSTRUCTION SUPERINTENDENTS and Assistant Superintendents required by established engineering and construction firm with headquarters New York City for permanent position in constructing petroleum refining, chemical and power plant installation on large scale in U. S. A. and foreign service. In reply state prior experience and salary expected. P-220, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ENGINEERS, experienced in design of sewers, sewage treatment plants, water works. State qualifications, detailed experience, salary requirements, availability. Pennsylvania firm. P-222, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

CONSTRUCTION SUPERINTENDENT, Graduate Engineer 35 to 45 years old, thoroughly familiar with irrigation construction, particularly reinforced concrete structures, must have good background and long experience handling men and Sub-contractors, must have ability to organize and coordinate work. Good salary for right men. Furnish complete summary of background and reference with letter. Mr. Harrell, P.O. Box 1498, Tulsa, Okla.

CONCRETE FOREMAN with following: Good salary. Long job, must be able to get production. Send full qualifications and references first by letter. Irrigation project. Stebbins Construction Co., Blair, Okla.

ESTIMATOR—STRUCTURAL & Orn. Shop, Norfolk, Va., 10 to 15 years. Responsible experience in take offs, pricing & selling. P-244, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

POSITIONS VACANT

WANTED—ENGINEERS experienced in the design of sewers, sewage treatment plants and water treatment plants. State qualifications, experience and salary requirements. P-787, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

WANTED Also a Mining Expert to take charge of and develop coal, Mica and other mines. Apply with full particulars to M. R. Jaipuria Esqr., The Lingmel, Civil Lines Cawnpore United Provinces India.

CONSTRUCTION SUPERINTENDENT wanted by contractor engaged in highway and heavy excavation projects. Location in the Middle West. P-255, Engineering News-Record, 520 N. Michigan Ave., Chicago 11, Ill.

CHEMIST FOR general analytical work, ferrous and nonferrous metals, coals, cokes, fuel oils, water analyses, bacteriological examinations of waters and milks, etc., large Copper Company, Chile, South America. 3-year contract. Transportation both ways and salary while traveling paid by company. In reply give complete details. P-256, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

WANTED: EXPERIENCED Concrete Pipe Superintendent for Conn. Plant. State Qualifications, experience and salary requirements. P-257, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ENGINEER WANTED with some experience in design of water and sewage works to do field and design layout for consulting engineering firm in medium size mid-western city. Give age, qualifications and salary requirements. P-258, Engineering News-Record, 520 N. Michigan Ave., Chicago 11, Ill.

POSITIONS WANTED

GENERAL CARPENTER Foreman Asst. Supt. —25 years experience specializing in all types concrete construction. Age 43. Available immediately. Location immaterial. PW-232, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELECTRICAL ENGINEER: Now employed ,desires change after January 1st. Over twenty years experience with power company, engineers and contractors. Best of references. Single, free to travel, no objection to foreign duty. Not interested in straight design "On the Go and Work". Prefer outsider or mixed work. Can get results. PW-207, Engineering News-Record, 520 N. Michigan Ave., Chicago 11, Ill.

CONSTRUCTION EXECUTIVE Engineer. Many years diversified experience in construction of all types. Take full responsibility of organization and operation of many large projects in his stride. Knows how to secure and expedite materials and get things done. Salary requirements $10,000 plus percentage of profits. With an eye to a partnership interest. PW-226, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

SALES MANAGER or Branch Manager for Building or Metal Products, twenty years sales engineering and sales managerial experience with two leading companies. Now employed New York City desires change. PW-227, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

CIVIL ENGINEER—structural age 42. Registered Penn. and Delaware. Early experience subway constructing. Recent experience mainly detailing and design of buildings with some bridges, piers and railroad layouts including four years overseas civilian design. Available immediately within Wilmington, Coatesville, Lancaster area. PW-229, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

CONSTRUCTION ENGINEER over 25 years experience on subways, tunnels, bridges, caissons, shafts, grade eliminations, air fields, building roads, sewers, water works, grain elevators. Licensed professional engineer. Veteran, ex-Major, Corps of Engineers. PW-230, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

POSITIONS WANTED

CONSTRUCTION SUPERINTENDENT: age 33. Small and medium size heavy construction projects. Assistant superintendent on large projects. Last 6 years specializing on water front construction. Timber, concrete and steel. Veteran of Sea Bees, B.S. in Civil Engineering degree. PW-248, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

CONSTRUCTION SUPT.—Structural Engineer-Estimator. Age 44, 20 years experience dams, waterfront structures, parkways, roads, bridges, power plants, industrial buildings, wants position with small or medium size contracting organization with opportunity of obtaining interest in business. Present position, supervising Structural Engineer with large Consulting and Contracting firm. P.O. Box 164, Collingswood, N. J.

CIVIL ENGINEER, graduate, single, age 25, two years civilian construction experience including field supervision, estimating, and surveying plus two years as officer in army engineers. Desire position in South America with one year contract to start. Do not speak Spanish. PW-259, Engineering News-Record, 520 N. Michigan Ave., Chicago 11, Ill.

GENERAL CONSTRUCTION Superintendent, 43, married, graduate engineer, 19 years experience heavy construction, building dams, powerhouses, bridges, culverts. Drive all kinds pile-highway excavation and grading. Familiar with all kinds heavy equipment. Have full crew of foremen and master mechanic, all available January 1. No job too large or too small. PW-260, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

CONSTRUCTION SUPERINTENDENT: Shaft Boss, experienced shaft and tunnel work also quarries and open cut rock work. PW-261, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

GENERAL OR Concrete Foreman, 26 years experience complete charge of all types of concrete construction. Placing and handling batch and crushing plants. Member A.C.I. Foreign or domestic. PW-262, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ARCHITECTURAL ENGINEER open for connection. 20 years experience in practically all lines engineering. PW-263, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

GENERAL MANAGER. Construction executive with sound practical background, capable of organizing equipping and operating all types of construction enterprises desires connection with general contractor on a profit sharing basis. Location immaterial, permanence essential. Available soon after January 1st. PW-264, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

SANITARY ENGINEER, 33, ten years experience civil and military construction and operation of plants for biological and chemical treatment of domestic wastes ,treatment and reclamation of industrial wastes. PW-265, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

STRUCTURAL ENGINEER, Young. B.C.E. Registered P.E. New York and Ohio, six years experience in design, construction, and estimates, experienced on Rigid Frames, heavy foundations, difficult structures. Desires responsible designing position with progressive Architectural or Engineering firm. PW-268, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

PART TIME WORK WANTED

STRUCTURAL STEEL Shop Drawings. Industrial building plans, Concrete design, by Registered Engineers. Georgia Detailers Association, Box 191, East Point, Ga.

EXPERT STRUCTURAL Engineer, P.E., steel and reinforced concrete industrial and other buildings. PTWW-266, Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

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